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ZEBRA TECHNOLOGIES

Zebra

P4T/RP4T™

Mobile Printer Series

User Guide

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Product Improvements

Since continuous product improvement is a policy of Zebra Technologies Corporation, all specifications and signs are subject to change without notice.

FCC Compliance Statement

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
NOTE: This equipment has been tested and found to comply with the limits or a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet or circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

WARNING: Exposure to Radio Frequency radiation. To conform to FCC RF exposure requirements this device shall be used in accordance with the operating conditions and instructions listed in this manual. Note that there are several radio options available with this printer. Additional regulatory information is contained in later sections devoted to each radio individually.
NOTE: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to insure compliance.
Changes or modifications to this unit not expressly approved by Zebra Technologies Corporation could void the user's authority to operate this equipment.

Canadian Compliance Statement

This Class B digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe B est conforme á la norme NMB-003 du Canada.
"IC:" before the equipment certification number signifies that the Industry Canada technical specifications were met. It does not guarantee that the certified product will operate to the user's satisfaction.

Agency Approvals and Regulatory Information

- FCC part 15
- NOM-ETL (Mexico)
- EN55022: Class B European Electromagnetic Radiation Standard
- Design certified by TUV
- Canadian STD RSS-210
- EN60950-1: Safety Standard
- C-Tick (Australia)

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Document Conventions

The following conventions are used throughout this document to convey certain information:

Caution • Warns you of the potential for electrostatic discharge.

Caution • Warns you of a potential electric shock situation.

Caution • Warns you of a situation where excessive heat could cause a burn

Caution • Advises you that failure to take or avoid a specific action could result in physical harm to you.

Caution • Advises you that failure to take or avoid a specific action could result in physical harm to the hardware.

Important • Advises you of information that is essential to complete a task.

Note • Indicates neutral or positive information that emphasizes or supplements important points of the main text.

Text in this format will jump to the appropriate section in the manual.

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Introduction to the P4T Series

Thank you for choosing one of our Zebra P4T Series Mobile Printers. The P4T Series consists of two models. The P4T can print on direct thermal or thermal transfer media. The RP4T can print on direct or thermal transfer media and also encode special RFID media.

Because these printers are made by Zebra Technologies, you're assured of world-class support for all of your bar code printers, software, and supplies.

- This User's Guide gives you the information you'll need to operate and maintain both the P4T and RP4T models.
- P4T Series printers use the CPCL programming language. To create and print receipts and labels using the CPCL language, refer to our Label Vista™ label creation program or the Mobile Printing Systems CPCL Programming Manual which are both available on our Web site at: www.zebra.com/manuals .
- P4T Series printer software also includes interpreters for the ZPL II® programming language (up to Version 30.8.4). Manuals for the ZPL label design programming language are also available on our Web site. Refer to Appendix "F" of this manual for more information on accessing and downloading manuals and other user information.

Always refer to the Important Safety Information data sheet shipped with each printer and the Technical Bulletin shipped with each battery pack. These documents detail procedures to ensure maximum reliability and safety while using this printer.

Unpacking and Inspection

Inspect the printer for possible shipping damage:

- Check all exterior surfaces for damage.
- Open the media cover (refer to "Loading the Media" in the Printer Preparation section) and inspect the media compartment for damage.

In case return shipping is required, save the carton and all packing material.

Reporting Damage

If you discover shipping damage:

- Immediately notify and file a damage report with the shipping company. Zebra Technologies Corporation is not responsible for any damage incurred during shipment of the printer and will not cover the repair of this damage under its warranty policy.
- Keep the carton and all packing material for inspection.
- Notify your authorized Zebra re-seller.

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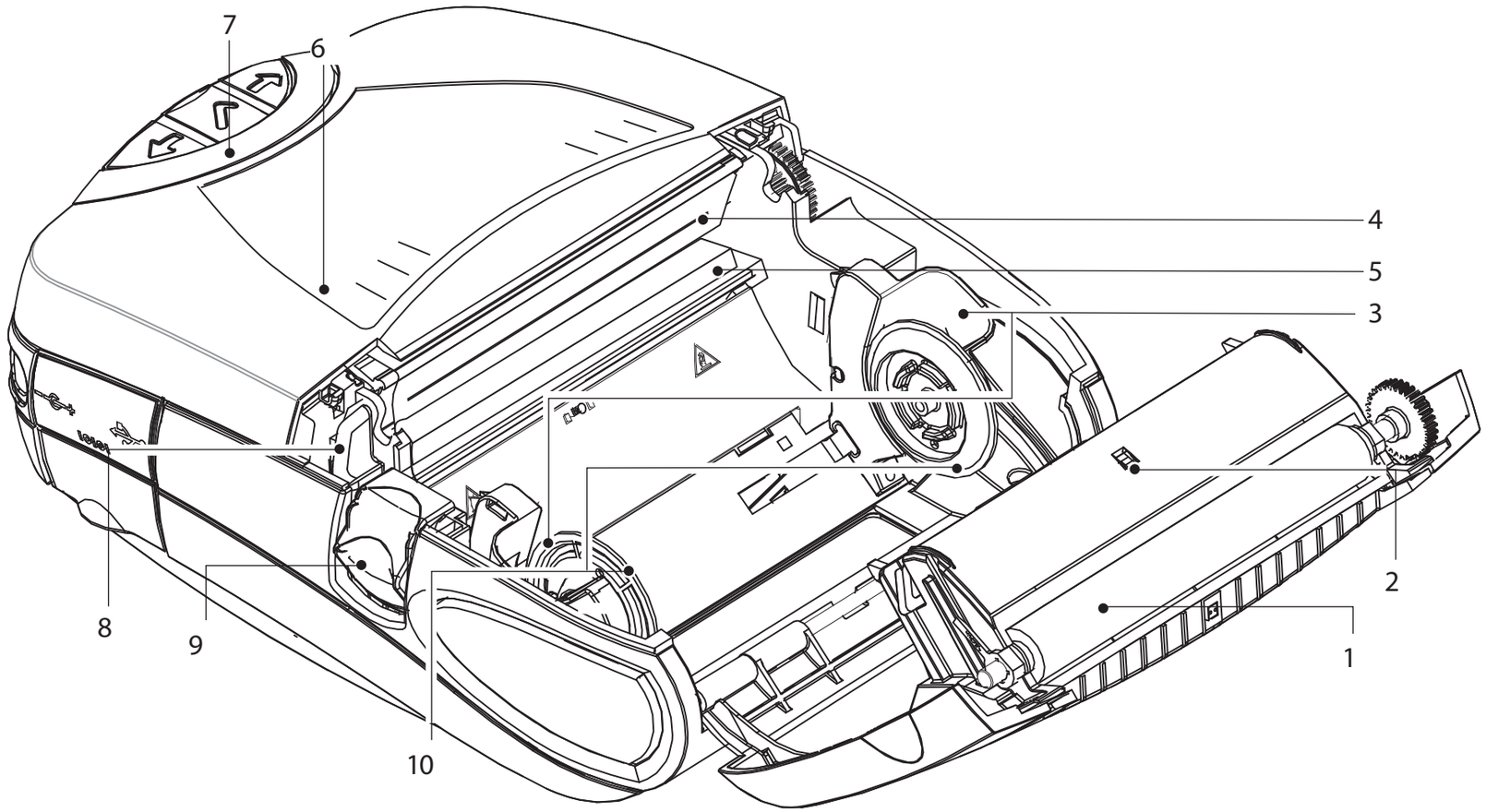
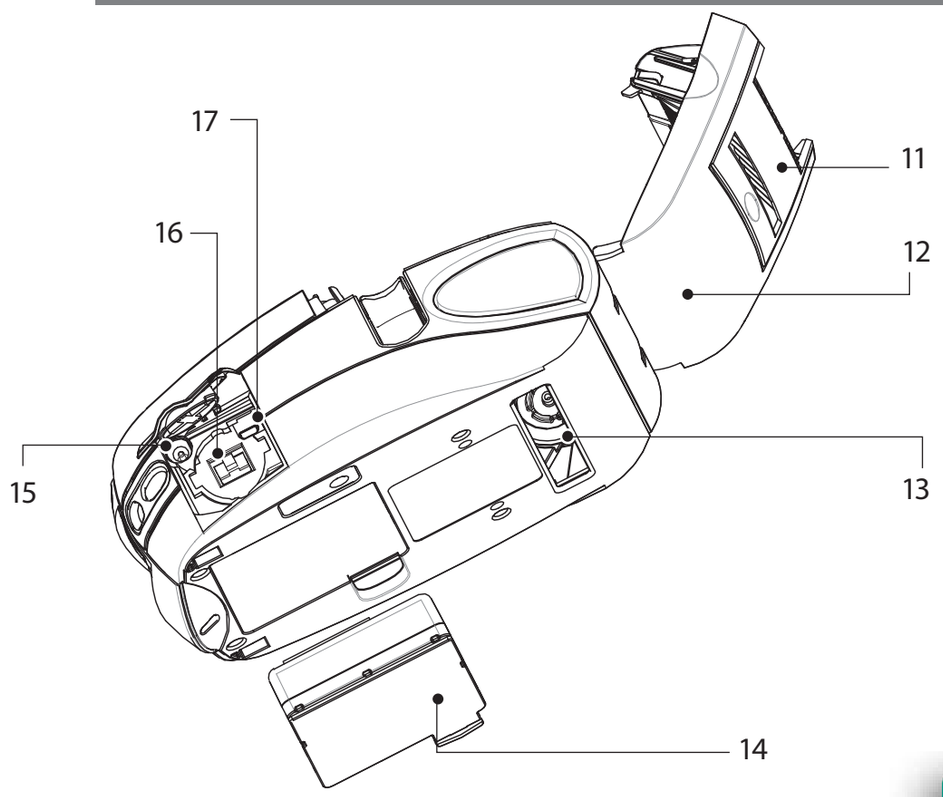
P4T/RP4T Overview

Figure 1: P4T/RP4T Illustrated



1. Platen Roller
2. Bar Sensor
3. Media Support
4. Printhead
5. RFID Reader/Encoder (RP4T only)
6. Ribbon Cartridge Cover
7. Control Panel
8. Ribbon Cartridge Cover Latch
9. Media Cover Latch
10. Media Support Disks
11. Label Peeler
12. Media Cover
13. External Media Access (optional)
14. Battery
15. Battery Charging Receptacle
16. RS232 Communications Port
17. USB Port

Figure 1a: P4T/RP4T Bottom View



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P4T Series Technology

The P4T Series introduces several new technologies to the Zebra Mobile Printer product line.

Smart Battery

The P4T Series battery pack contains electronics which allow the printer to monitor its operating parameters. Among these are the battery's charge state, the number of charge cycles it has undergone, and its date of manufacture. Using these parameters, the P4T Series' software can monitor the battery's condition and alert the user when to recharge, re-condition or remove the battery from service.

> Use of any battery pack other than the one manufactured by Zebra specifically for use with P4T Series printers will not be able to use the diagnostic features of the Zebra Smart Battery and will not work with the printer.

Printing Technology

The P4T Series uses two methods to print human readible text, graphics and barcodes: Direct Thermal, and Thermal Transfer

Direct Thermal

Direct thermal printing uses heat to cause a chemical reaction on specially treated media. This reaction creates a dark mark wherever a heated element on the printhead comes in contact with the media. Since the printing elements are arranged very densely at 203 d.p.i. (dots per inch) or 8 dots per mm, highly legible characters and graphic elements may be created a row at a time as the media is advanced past the printhead. This technology has the advantage of simplicity, as there is no requirement for consumable supplies such as ink or toner. However, since the media is sensitive to heat, it will gradually loose legibility over long periods of time, especially if exposed to environments with relatively high temperatures.

Thermal Transfer

Thermal transfer printing uses the same basic technology as direct thermal, except that the printhead elements react with a transfer film which passes between the printhead and the media. The printing process fuses the thermal transfer material to the media being printed and creates characters and graphic images that are very dark, and more permanent than those created by direct thermal printing. Offsetting this advantage is the extra cost of the thermal transfer film and printing speeds slower than those required for direct thermal printing.

For ease of installation, P4T Series thermal transfer film is supplied as a cartridge. Typically a thermal transfer film cartridge will be able to print two rolls of media before needing replacement. This ratio may vary considerably based on the amount of label stock per roll.

RFID (Radio Frequency Identification)

A P4T Series printer equipped with an RFID encoder allows it to encode information on special label media using radio frequencies in addition to using conventional thermal transfer technology. These printers are identified as RP4T printers.

RFID encoded information can be retrieved using an RFID scanner from a distance of inches to several yards from an encoded label.

Zebra's implementation of RFID follows accepted industry standards. As an example, the RP4T verifies the information encoded on the label media after it is transmitted and voids the label if the data is incorrect. More information concerning RFID may be found in Zebra's RFID Programming Manual, available for download on Zebra's Web site.

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Printer Preparation

Battery Safety

The Battery Packs used on Zebra Mobile Printers contain a great deal of energy and can cause personal injury or start a fire if used improperly or carelessly. Please observe the following safety practices:

Caution • Avoid accidental short circuiting of any battery. Allowing battery terminals to contact conductive material will create a short circuit which could cause burns and other injuries or could start a fire.

Caution • Batteries can explode or catch fire if improperly charged or exposed to high temperatures or fire. Do not disassemble, crush or expose batteries to water.

Caution • Use of any charger not approved specifically by Zebra for use with its batteries could cause damage to the battery pack or the printer and will void the warranty.

Read carefully and always observe the safety guidelines for Li-ion batteries provided with each Battery Pack.

Charger Safety

Do not place a charger in locations where liquids or metallic objects may be dropped on the charger or, in the case of the UCLI72-4 Quad Charger, into the charging bays.

Use care in locating any of the approved P4T Series single chargers, the AC Adapter or the UCLI72-4 Quad Charger. Do not block the ventilating slots on the top and bottom covers. Ensure that the Charger is plugged into a power source which won't accidently be turned off if you will be charging batteries overnight.

Required Regulatory Text for Argentina

Only certified adaptors with the following electrical characteristics shall be used. The use of different adaptors could damage the device, present hazards to the user and declare the correspondent guaranty void.

LI72: Input ratings: 100-240 VAC 50/60Hz 200mA., Class 2
Output ratings: 8.4 VDC, 800 mA

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Approved Chargers

The following table lists battery chargers approved for use with the P4T Series Printer.

Use of chargers not approved by Zebra specifically for use with the P4T Series will void the warranty and could cause damage to the printer or the battery pack. Zebra is not responsible for any damage to equipment caused by the improper use of unauthorized equipment.

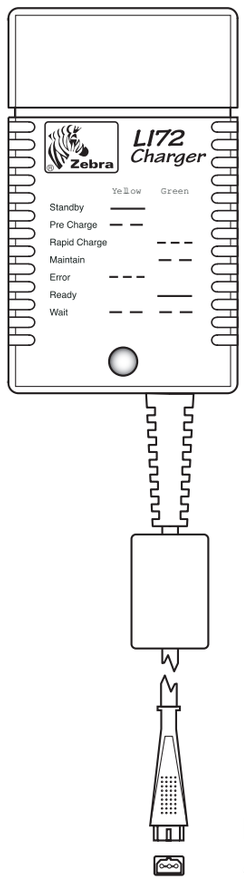
Description	Part no	Notes.
LI72 single charger)	AT17696-xx[1] AT18737-xx	Must be used with battery removed from printer
AC Adapter/US Line Cord	AK18913-002	Must be used with battery installed in printer
AC Adapter/UK Line Cord	AK18913-006	Must be used with battery installed in printer
AC Adapter/EU Line Cord	AK18913-007	Must be used with battery installed in printer
UCLI72-4 Quad Charger	AC18177-xx[1]	Must be used with battery removed from printer

Description	Part no	Notes.
15-60V DC Adapter/Right Angle	AK18913-003	N/A

1. Full part number is determined by the AC main adapter appropriate for the region of intended use. Consult your Zebra sales represenetative or the factory for the appropriate part number.

Single Battery Charger

Figure 2: LI72 Single Charger



LI72 Charger
AT17696-xx

The LI72 Charger

LI72 charger is a wall mounted fast charger with a universal 110 to 230, 50-60 Hz. VAC input. Multiple AC plug configurations comply with most international standards. This charger is intended for use with the P4T Series printers which are equipped with Lithium Ion (Li-ion) batteries.

Full part numbers are determined by the AC mains connectors. Consult Zebra or your authorized re-seller for full part number information.

The LI72 will charge a battery pack as fast as its charge level will allow, and then switch over to a maintenance charge to keep the charge at its maximum.

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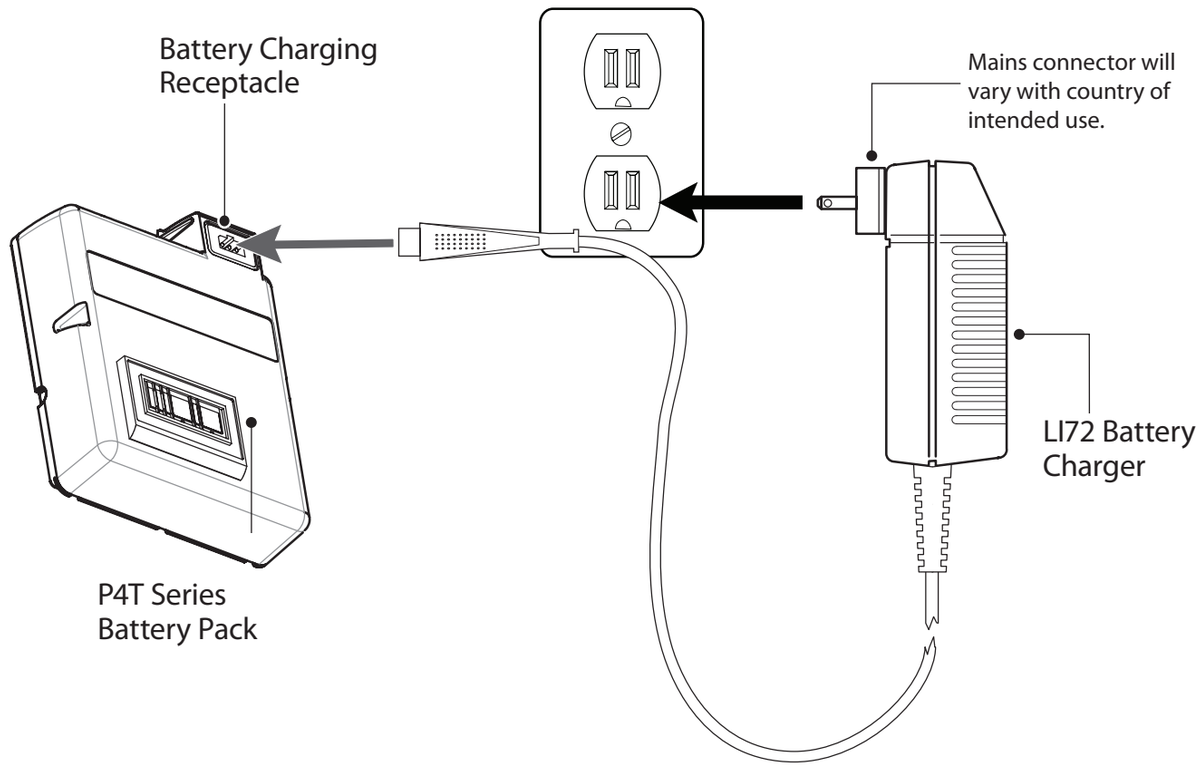
Figure 3: Charging the P4T Series Battery with the LI72


Battery Charging Receptacle
Mains connector will vary with country of intended use.
LI72 Battery Charger
P4T Series Battery Pack

Charging Battery Packs with the AT17696-xx LI72 Single Charger

Plug the LI72 into the appropriate AC wall receptacle, then insert the charge cable into the battery pack charger jack. The yellow/green charge indicator LED will indicate the status of the charger as per the following table.

Indicator	Charger Function	Charger Status
Steady yellow indicator	Standby	AC power on; no battery being charged
Slow (1 Hz) flashing yellow indicator	Pre-Charge	Charger is applying trickle charge current (5% of maximum) to bring a cold battery temperature up to 0°C before starting a full charge cycle
Fast (4 Hz) flashing green indicator	Rapid Charge	Charger is applying the maximum charge rate to the battery
Slow (1 Hz) flashing green indicator	Maintain	Charger is in trickle charge mode (10% of nominal charge value).
Fast (4 Hz) flashing yellow indicator	Error	The battery may have an internal short, or its charge monitoring circuitry may be malfunctioning. The battery pack should not be used any further.
Steady green indicator	Ready	No charge is being applied to the battery
Slow (1 Hz) flashing alternate yellow and green indicator	Wait	Battery temperature is too hot. Charging will not begin until battery temperature reaches 45°C.

Notes: The battery pack must be removed from the printer when using the AT17696-xx LI72 Single Charger. Charging will cease three (3) hours after the charger has entered the “Maintain” mode.

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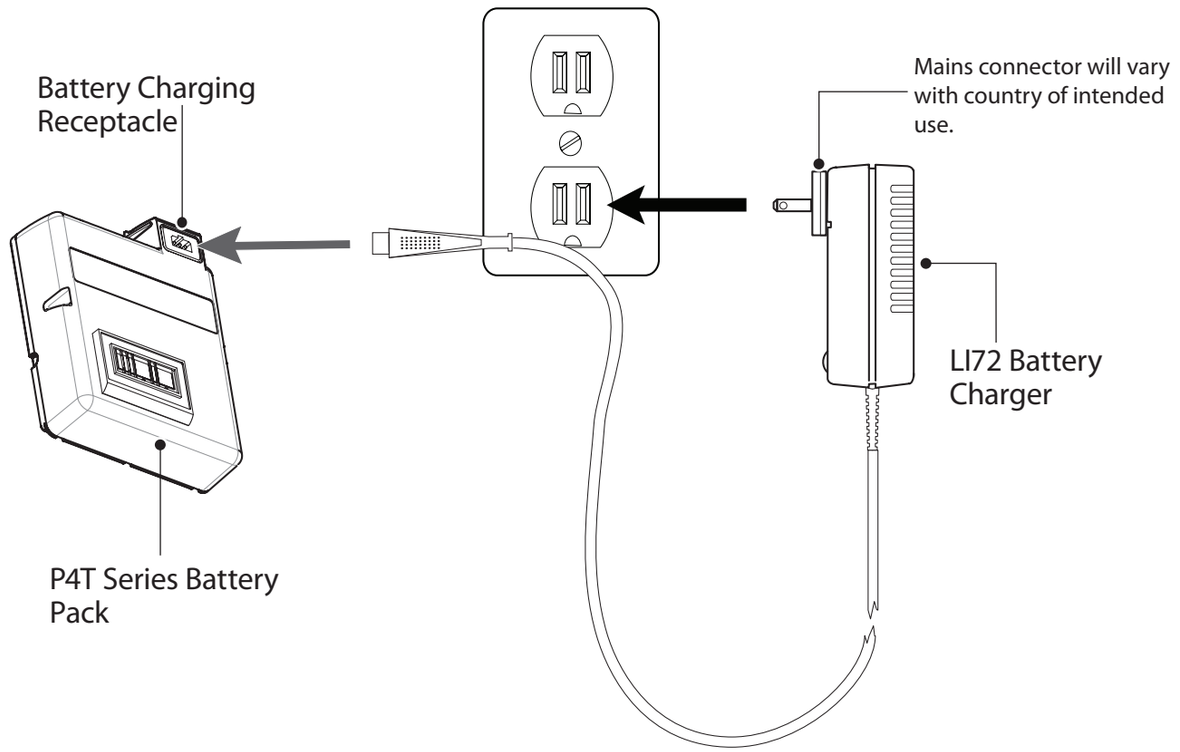
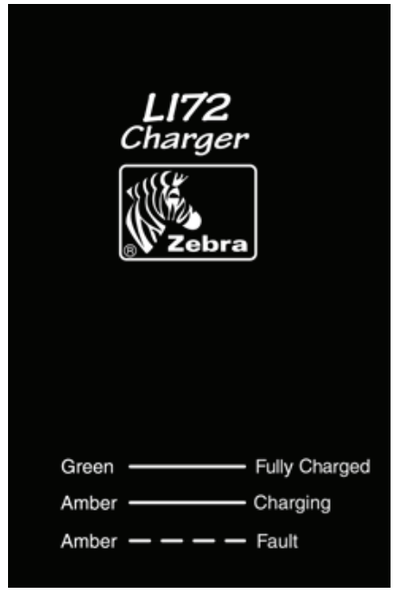
Figure 4: Charging the P4T Series Battery with the LI72 Single Charger


Battery Charging Receptacle
Mains connector will vary with country of intended use.
LI72 Battery Charger
P4T Series Battery Pack

Charging Battery Packs with the AT18737-xx LI72 Single Charger

Plug the LI72 into the appropriate AC wall receptacle, then insert the charge cable into the battery pack charger jack. The amber/green charge indicator LED will indicate the status of the charger as per the following table.

LED Status	Charger Status
Green Solid	Fully Charged
Amber Solid	Charging
Amber Blinking	• Battery Contact Problem 1. Short Circuit of Output Terminals 2. Detection of Short Battery's Circuit 3. No Contact + Terminal • Over Voltage Protection • Over Current Protection • Temperature Waiting Time



Operating Temperature	0 to 40° C @ 30-85% Relative Humidity
Storage Temperature	-30 to 60° C @ 10-90% Relative Humidity
Input Voltage	AC100 to 240V 47 to 63Hz
Input Current	0.18A MAX
Output	DC 8.4V 800mA

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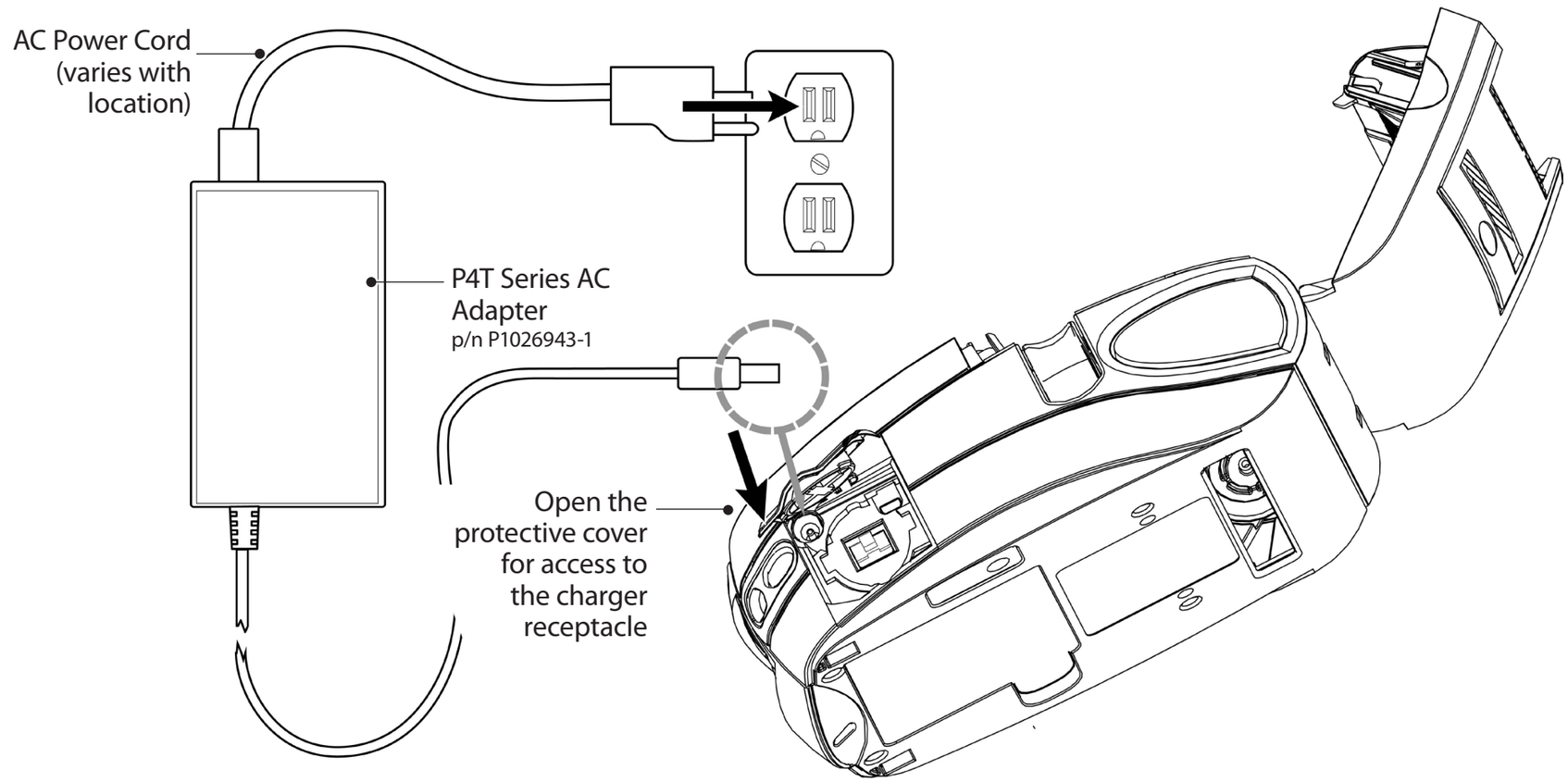
Charging the P4T Series Battery with the P1026943-1 AC Adapter

Figure 4A: Charging the P4T Series Battery with the AC Adapter


AC Power Cord (varies with location)
P4T Series AC Adapter
p/n P1026943-1
Open the protective cover for access to the charger receptacle

- Open the protective cover on the P4T Series printer to expose the charger jack and the communication ports.
- Connect the appropriate AC power cord for your location to the adapter and then plug the power cord into an AC receptacle.
- Plug the barrel plug from the P1026943-1 AC adapter into the charger jack on the printer.
- The printer will power up and begin charging. The printer can be left on or turned off at this point. Charging will continue in either state.

The following table details how the AC Adapter and P4T Series printers interact:

Printer Status	Charging Status	Printer LCD	Power Button Operation
Off	Off	Off	Pressing turns printer On
On	Off	Normal display operation	Pressing turns printer Off
On	On	Normal display operation, plus battery icon will cycle through level bars. Charging will continue as required..	Pressing switches printer to limited operation: only battery charging & LCD functional
Off	On	Battery icon will cycle through level bars. Printer turns off at end of charge cycle.	Pressing turns printer On. Printer will run normally

Note: If the battery is out of its safe charging temperature range (either too hot or too cold) the printer will display the following: "Charging will resume when battery is in the range 0-40 degrees C (32-104 degrees F)" and the battery icon will alternately flash ▭ and ■■■■ . Once the battery reaches a safe charging temperature, normal charging will automatically resume.

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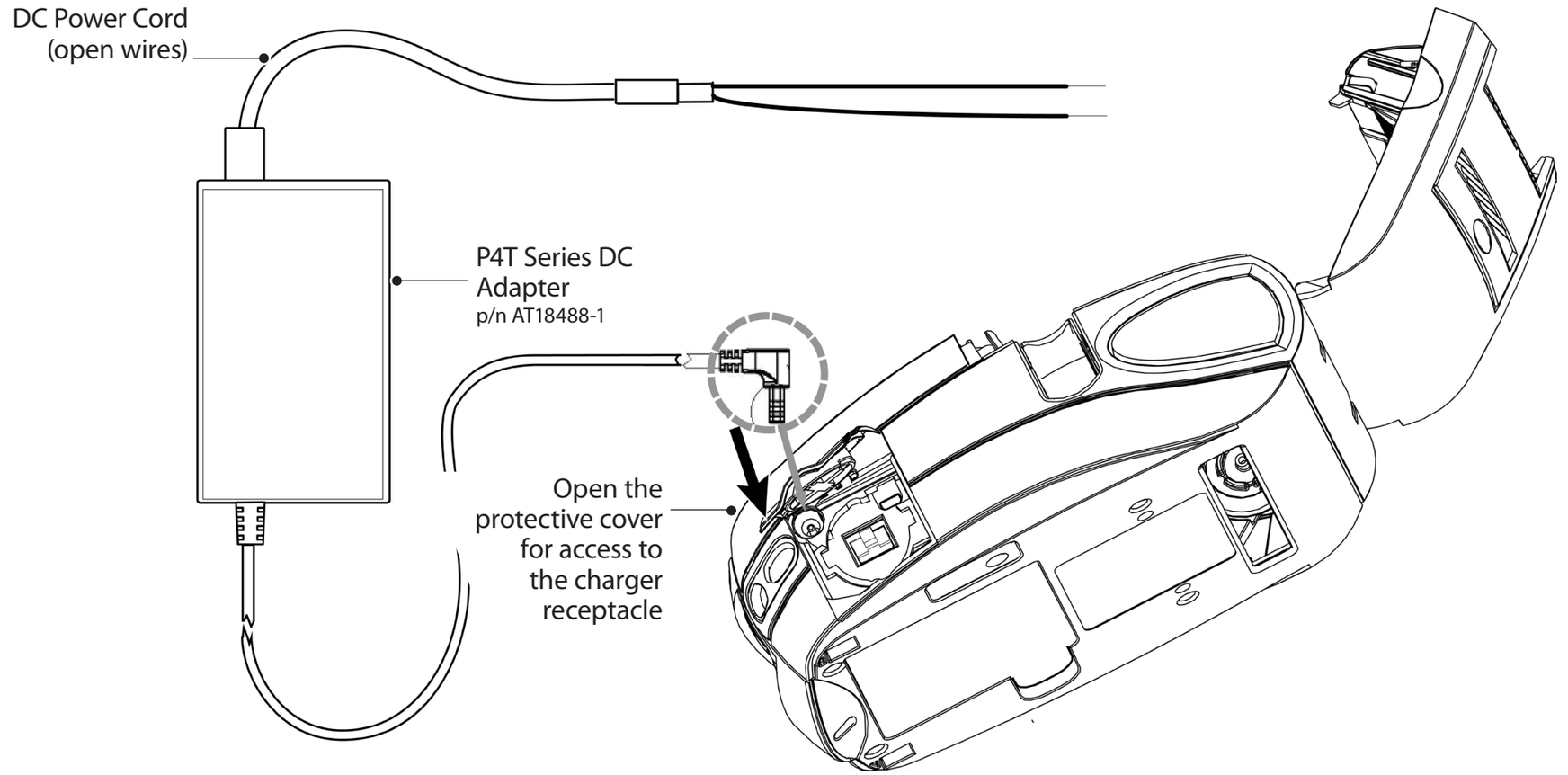
Charging the P4T Series Battery with the AT18488-1 DC Adapter (Customer ordering p/n AK18913-003)

Figure 4B: Charging the P4T Series Battery with the DC Adapter



- Open the protective cover on the P4T Series printer to expose the charger jack and the communication ports.
- Plug the right angled barrel plug from the AT18488-1 DC adapter into the charger jack on the printer.
- Connect the black cable ground (-) terminal to vehicle ground (preferably at the vehicle fuse box).
- Connect the white cable power (+) terminal to the vehicle power source (preferably at the vehicle fuse box).

The following table details how the DC Adapter and P4T Series printers interact:

Printer Status	Charging Status	Printer LCD	Power Button Operation
Off	Off	Off	Pressing turns printer On
On	Off	Normal display operation	Pressing turns printer Off
On	On	Normal display operation, plus battery icon will cycle through level bars. Charging will continue as required..	Pressing switches printer to limited operation: only battery charging & LCD functional
Off	On	Battery icon will cycle through level bars. Printer turns off at end of charge cycle.	Pressing turns printer On. Printer will run normally

Note: If the battery is out of its safe charging temperature range (either too hot or too cold) the printer will display the following: "Charging will resume when battery is in the range 0-40 degrees C (32-104 degrees F)" and the battery icon will alternately flash ▭ and ■■■■ . Once the battery reaches a safe charging temperature, normal charging will automatically resume.

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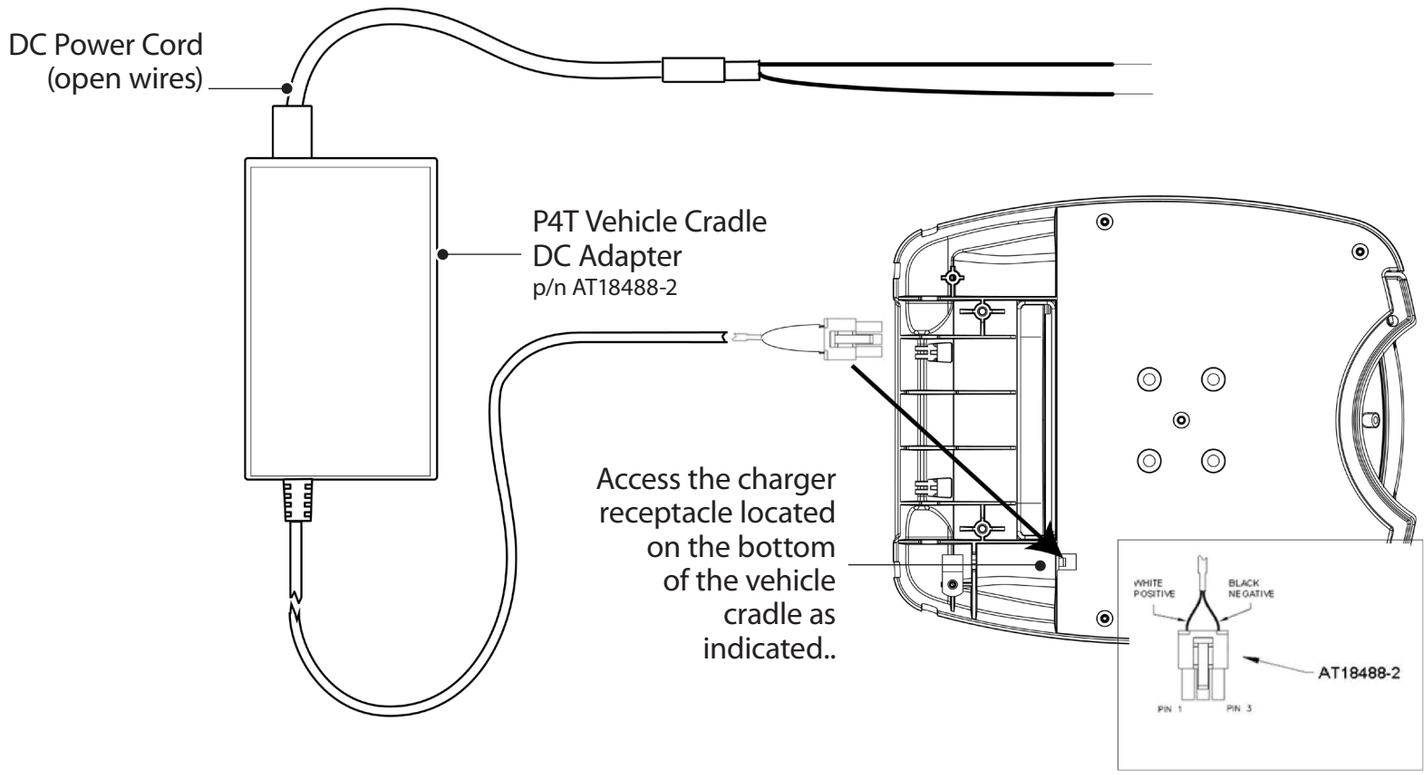
Charging the P4T Series Battery with the AT18488-2 DC Adapter (Customer ordering p/n AK18913-015)

Figure 4C: Charging the P4T Series Battery with the DC Adapter (Vehicle Cradle)



- Locate the charger receptacle on the bottom of the P4T vehicle cradle.
- Plug the Molex connector of the AT18488-2 DC adapter into the charger receptacle.
- Connect the black cable ground (-) terminal to vehicle ground (preferably at the vehicle fuse box).
- Connect the white cable power (+) terminal to the vehicle power source (preferably at the vehicle fuse box).

The following table details how the DC Adapter and P4T Series printers interact:

Printer Status	Charging Status	Printer LCD	Power Button Operation
Off	Off	Off	Pressing turns printer On
On	Off	Normal display operation	Pressing turns printer Off
On	On	Normal display operation, plus battery icon will cycle through level bars. Charging will continue as required..	Pressing switches printer to limited operation: only battery charging & LCD functional
Off	On	Battery icon will cycle through level bars. Printer turns off at end of charge cycle.	Pressing turns printer On. Printer will run normally

Note: If the battery is out of its safe charging temperature range (either too hot or too cold) the printer will display the following: "Charging will resume when battery is in the range 0-40 degrees C (32-104 degrees F)" and the battery icon will alternately flash ▭ and ■■■■ . Once the battery reaches a safe charging temperature, normal charging will automatically resume.

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Installation Guidelines (DC Adapter)

CAUTION: Insure that the adapter and cable you are using for this installation are clearly labeled for use with the vehicle's voltage. Failure to match the adapter's capacity to the vehicle's voltage could result in improper printer operation, or severe damage to either the printer and/or the adapter.

Note: It is the installer's responsibility to insure correct wiring and installation.

Note: Zebra is not liable for damage to any equipment caused by improper installation or wiring of the adapter, or damage resulting from use of the wrong adapter for the intended application.

Note: Do not lengthen the adapter's power cable or remove the cable's ferrite if equipped. Extending the cable or removing the ferrite may affect the adapter's reliability and radio frequency interference (RFI). Use care when attaching the adapter's power cable and power source. The red wire attaches to the positive (+) and the black wire to the negative (-) terminal. If wired backwards the adapter will be rendered inoperable and will need to be replaced.

General Guidelines

- Completely install the input power (battery) cable before connecting the unit(s).
- Route the input power from the general area where the unit(s) will be mounted.
- Use a snap-in bushing if the input power passes through the firewall or other sheet metal.
- Make sure that cable routing does not interfere with other equipment or vehicle controls.
- Make sure that cable routing does not expose the cable to potential physical damage.
- Secure the input power at least every 12 inches (30 cm) throughout the cable run.

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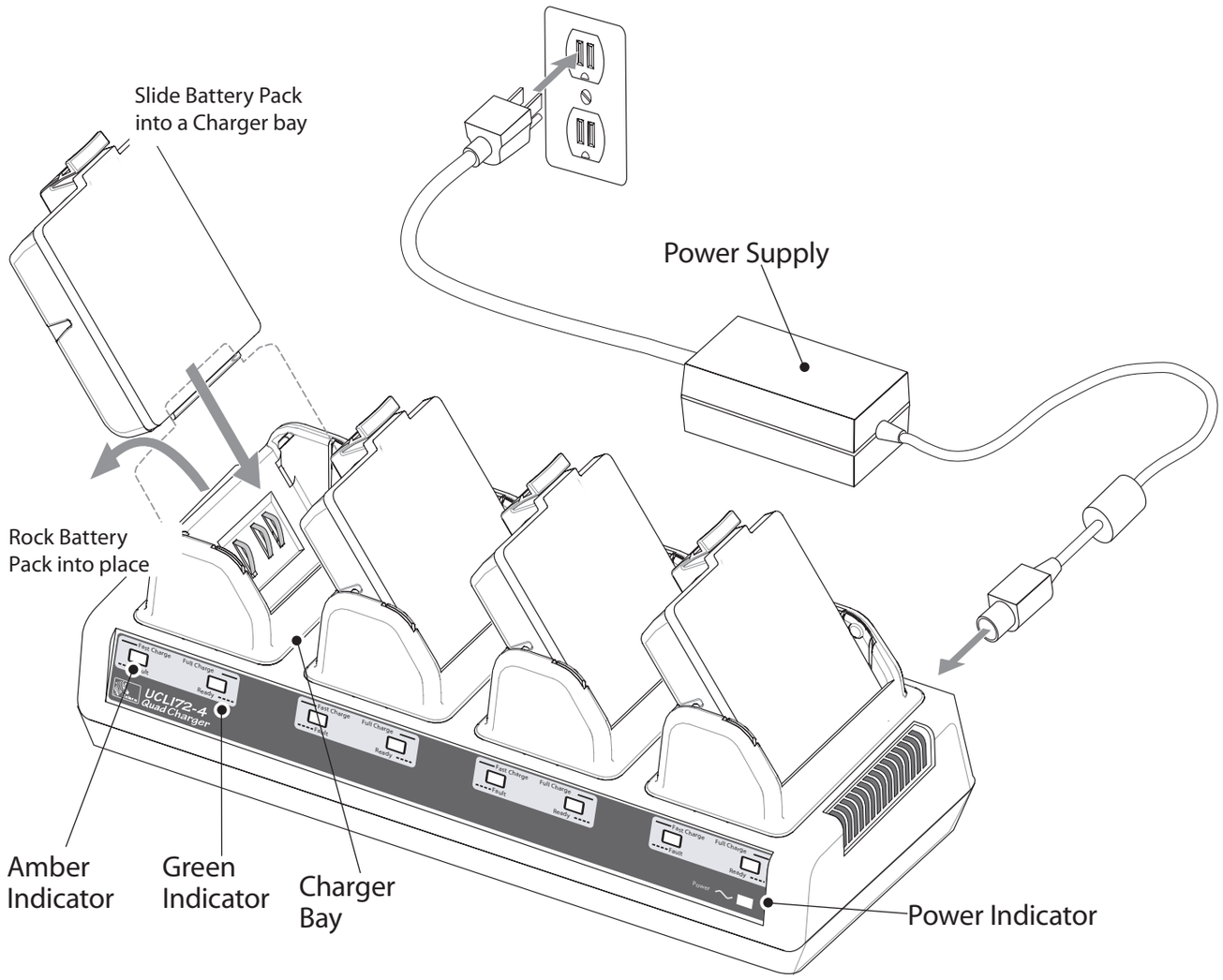
Charging the P4T Series Battery with the UCLI72-4 Quad Charger

Figure 5- UCLI72-4 Quad Charger



The UCLI72-4 Quad Charger is designed to charge up to four battery packs simultaneously. Charging times are as follows:

Battery Status	Charging Time
80% charged	2.5 Hrs.
Full charge	5 Hrs.

• Ensure that the charger has been installed properly per the Quad Charger instruction manual. Ensure that the power indicator on the front panel is on.

• Remove any protective shrink-wrap and labels from all battery packs prior to first use. Plug a battery pack into any one of the four charging bays as shown opposite in Figure _, noting the orientation of the battery pack.

• Slide the battery pack into the charging bay until it stops.

• Rock the battery pack back until it snaps into place.

The amber indicator directly under the battery being charged will turn on if the battery is properly inserted.

The indicators under each battery will allow you to monitor the charging process per the table below:

Amber	Green	Battery Status
On	Off	Charging
On	Flashing	80% charged (O.K. to use)
Off	On	Completely Charged
Flashing	Off	Faulty Battery

Important • A fault condition (flashing amber indicator) is caused by a problem with the battery pack. The charger may indicate a fault because the battery is too hot or too cold to charge reliably. Try to charge the battery again when it returns to the room's ambient temperature. If the amber indicator starts flashing on the second charging attempt, the battery should be discarded. Always dispose of batteries in a proper manner. Refer to Appendix E of this manual.

Notes: For more information regarding the installation and use of the UCLI72-4 Quad Charger refer to the instructions included with the product.

The UCLI72-4 Quad Charger has a safety feature which stops charging a battery after six hours regardless of its charge state.

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Installing the P4T Series Battery Pack

Important • New battery packs are shipped uncharged. Remove any protective shrink-wrap and labels from a new battery pack prior to use.
Additional battery packs may be ordered using Zebra p/n AK18913-001.

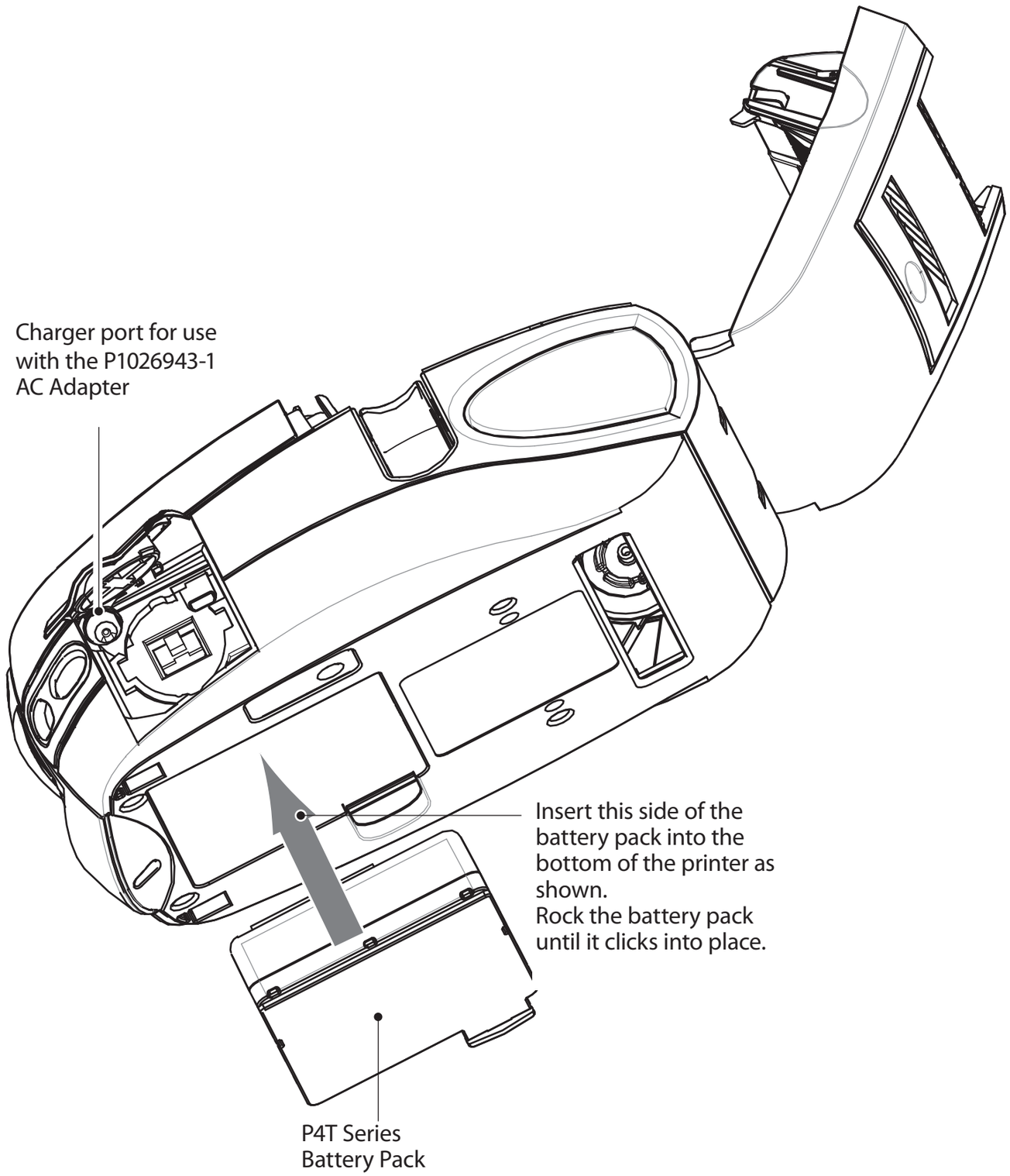
If you are using an LI72 single charger or the LI72-4 Quad Charger, you must charge the battery prior to installing it in the printer.

- .Insert the battery pack into the printer as shown in Figure 6 .
- Rock the battery pack into the printer as shown until it locks in place.

  If you are using the AC adapter, you should allow the battery pack to charge completely prior to using it for the first time.

When a new battery pack is first installed, the Control Panel indicators may briefly turn on and then go off, indicating the battery is not fully charged. Refer to the Charging the Battery and Operator Controls topics in this manual.

Figure 6: Installing the P4T Series Battery Pack


Charger port for use with the P1026943-1 AC Adapter
Insert this side of the battery pack into the bottom of the printer as shown.
Rock the battery pack until it clicks into place.
P4T Series Battery Pack

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Load the Media

P4T series printers are designed to print either continuous (journal) media or label stock.

Figure 7.1 Opening the Media Cover

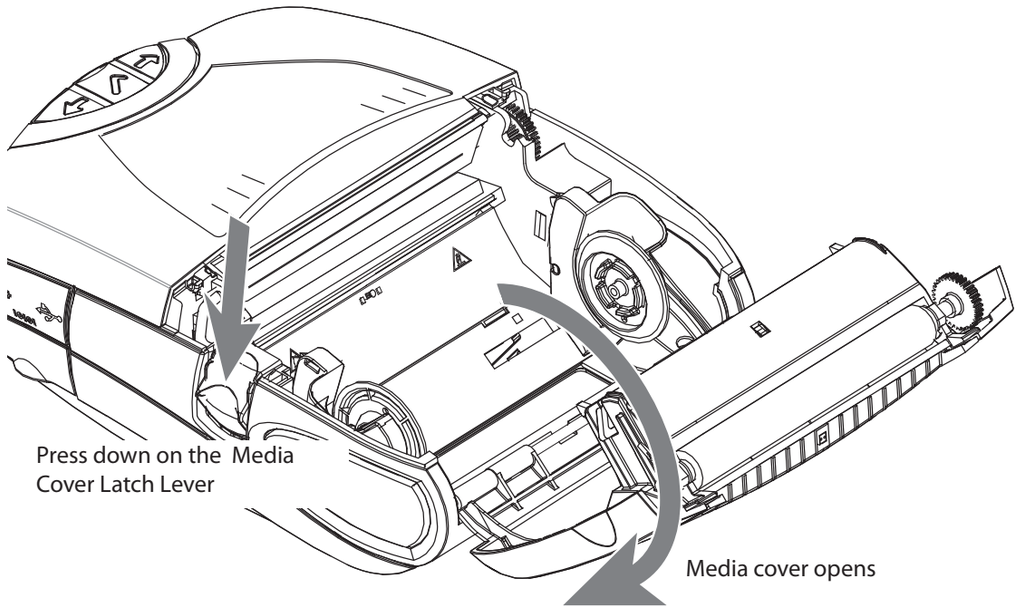
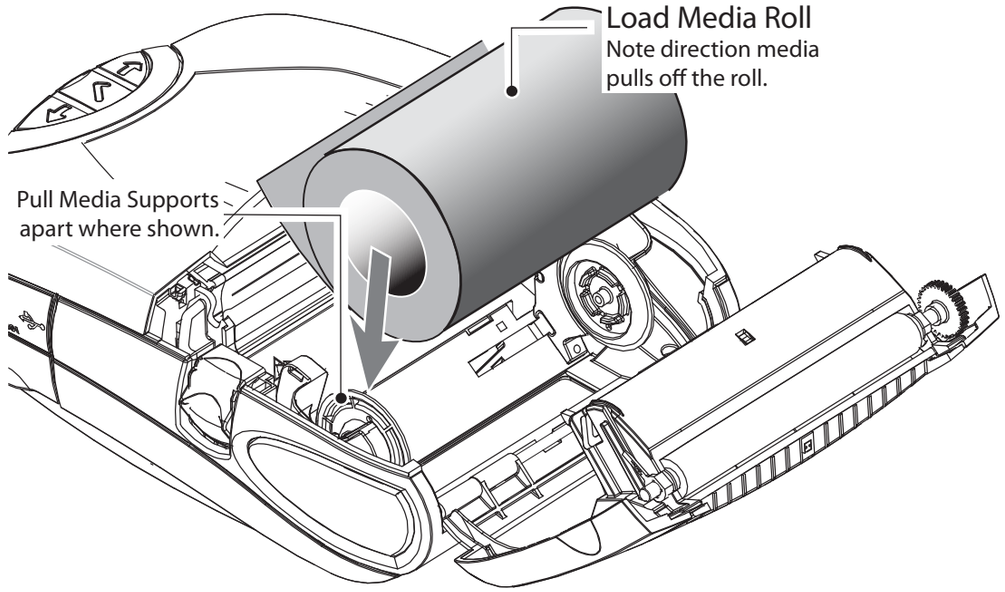


Figure 7.2 Loading the Media



1. Open the Media Cover

Refer to Figure 7.1.

- Press the latch release button on the side of the printer as shown at "1" below. The media cover will open automatically
- Rotate the Media Cover back completely as shown exposing the media compartment and the adjustable media supports.

2. Loading Media From An Internal Supply

Refer to Figure 7.2.

- Pull the media supports apart as shown.
- Insert the roll of media between them, and let the media supports close. Ensure that the media pulls off the core in the direction shown in Figures 7.2 and 7.4. The supports will center the media roll within the media compartment, and the media roll should be able to spin freely on the supports.

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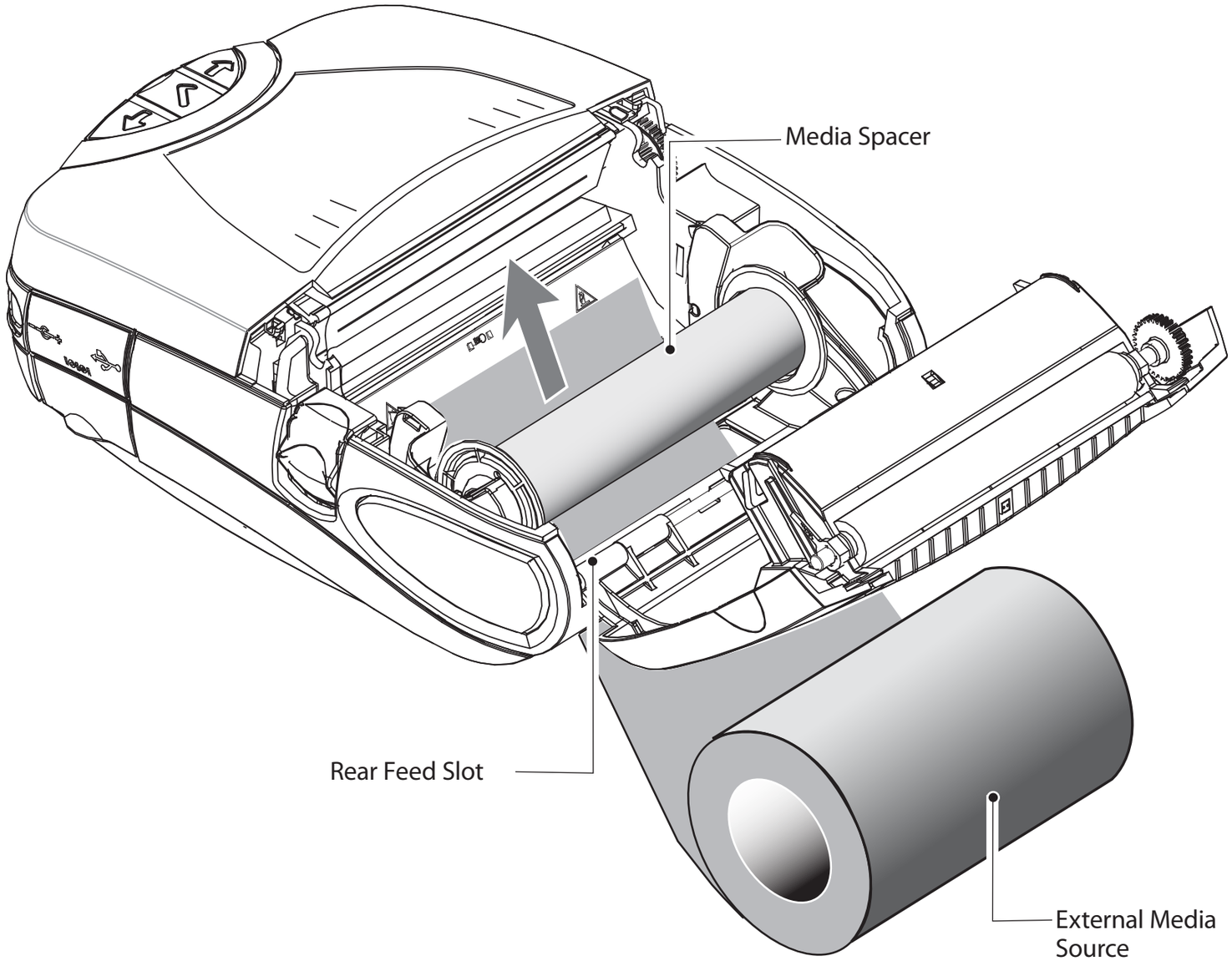
Figure 7.3- Loading Media From An External Supply



3. Loading Media From An External Supply

Refer to Figure 7.3. A P4T Series printer configured with the External Media option has a loading slot in the rear of the media compartment allowing you to use 4.0 in. (101.6 mm) wide fanfold or roll media from an external supply. The external supply must be designed such that it does not exert excessive drag as media is fed through the printer, which could result in distorted printing.

- Pull the media supports apart, insert a Media Spacer (Zebra part number BA16625-1) between them, and let the media supports close.
- Insert the media from the external supply through the rear feed slot, between the media guides and up through the media compartment as shown. Make sure the side of the media you will be printing on faces the printhead.

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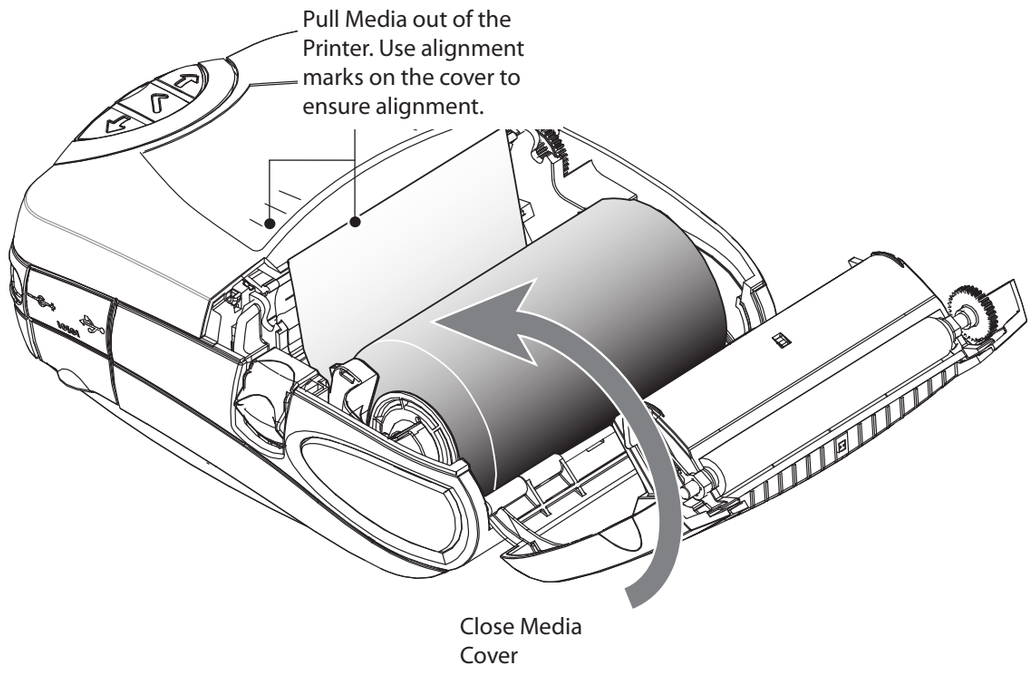
Figure 7.4-Close the Media Cover

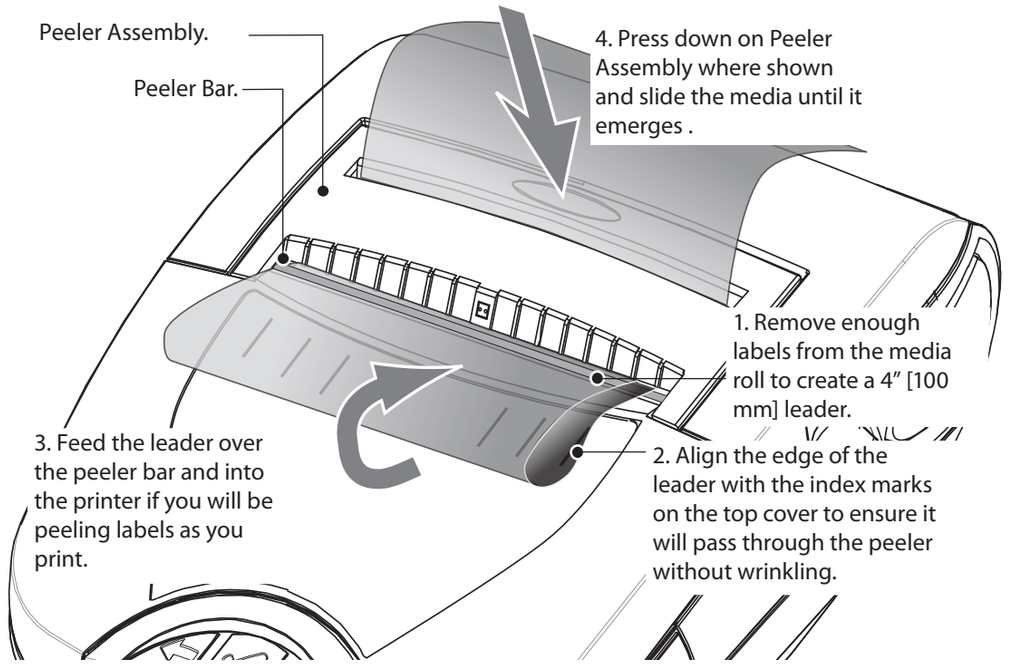


4. Close the Media Cover:

Refer to Figure 7.4.

- Pull the media out of the printer as shown at "1."
- Close the media cover as shown at "2", ensuring that it latches securely into place.
- Turn the printer on or press the Feed button if the printer is already on.
- The printer will advance a short strip of media and will then be ready for printing.

Figure 7.5- Insert Media into Peeler


Peeler Assembly.
Peeler Bar.
4. Press down on Peeler Assembly where shown and slide the media until it emerges .
1. Remove enough labels from the media roll to create a 4" [100 mm] leader.
3. Feed the leader over the peeler bar and into the printer if you will be peeling labels as you print.
2. Align the edge of the leader with the index marks on the top cover to ensure it will pass through the peeler without wrinkling.

5. Using the Label Peeler

Optional Step for label stock only

Refer to Figure 7.5.

The label peeler feature allows automatic separation of the printed label from its backing.

1. If you wish to use the label peeling feature, remove enough labels from the media roll to create a leader approximately 4" [100 mm.] long.
2. Align the media as it emerges from the printhead with the index marks on the top cover to ensure it will pass through the peeler assembly without wrinkling.
2. Feed the leader you created in step 1 over the peeler bar and into the peeler assembly.
3 Push on the peeler assembly where shown in Figure 6.5. Insert the leader into the label peeler as shown and push on the media roll until it emerges from the slot at the rear of the peeler assembly.

- Turn the printer on or press the Feed button if the printer is already on.
- The printer will advance a short strip of media and will then be ready for printing.

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Adjusting The Media Support Disks

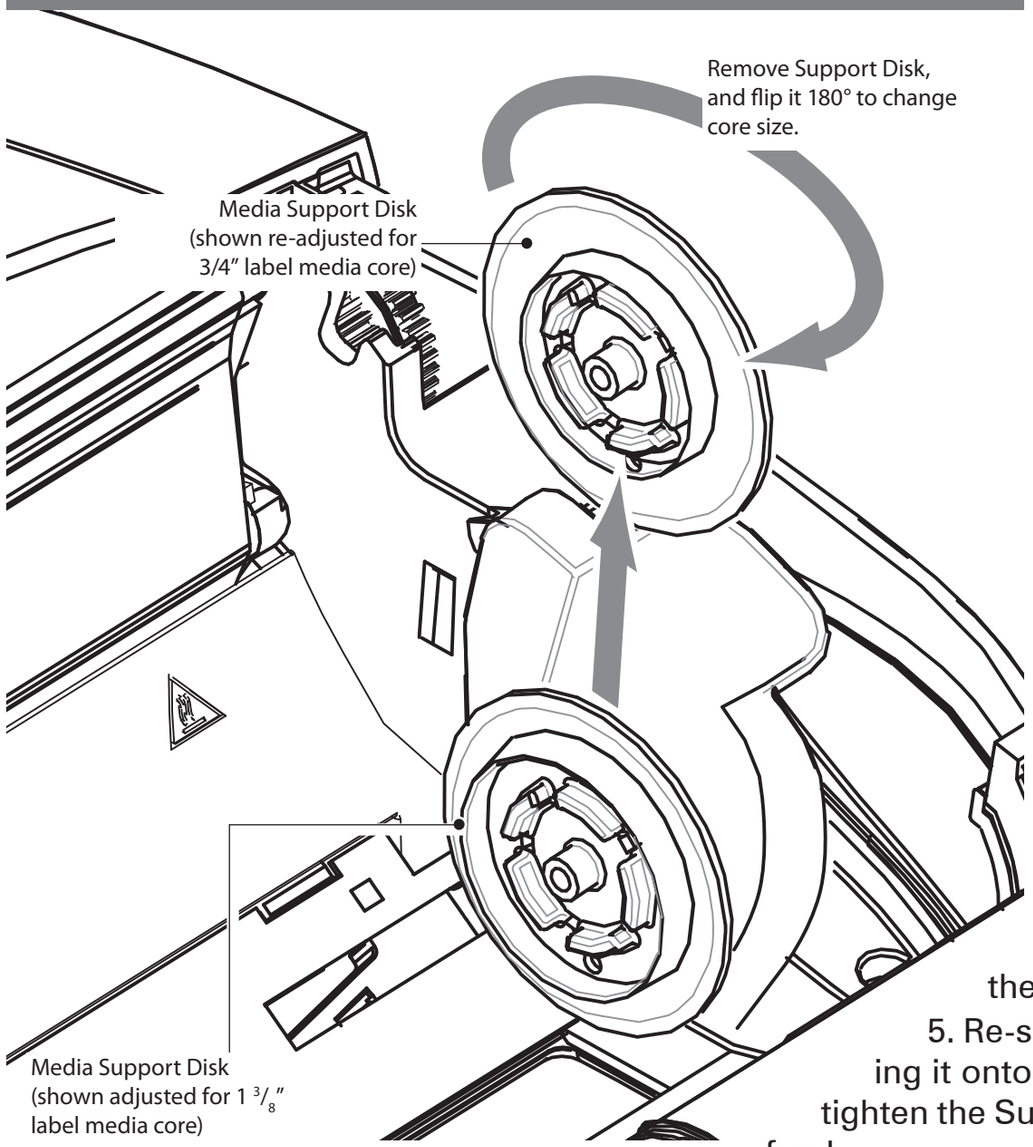
Media Core Size

Media supplied for the P4T Series printers will have two possible core sizes, depending on the media type. Journal media and most label media is supplied with a 0.75" [19.1 mm] diameter core to maximize the amount of media contained on a roll.

P4T printer media supports are set at the factory for 0.75" diameter media cores.

RP4T printers (equipped with the RFID encoder) are configured for media with 1.38" [35.05 mm] diameter cores since RFID media cannot be wound around a small diameter core without both degrading its ability to feed properly past the printhead and causing possible damage to the embedded RFID circuitry.

Figure 8- Adjusting the Media Core Diameter


Remove Support Disk, and flip it 180° to change core size.
Media Support Disk (shown re-adjusted for 3/4" label media core)
Media Support Disk (shown adjusted for 1 3/8" label media core)

Changing The Media Support Core Diameter Size

It may become necessary to change the media core size in the field to allow use of different media.

The media support disks are designed for both sizes of media cores, and they can be adjusted by removing them, flipping their position and re-securing them to the printer.

1. Open the Media Cover and remove any label media.
2. Use Phillips head screwdriver with a long blade to keep the screw attaching the Support Disk to the printer from turning.
3. Rotate the Support Disk while keeping the attachment screw from turning, and remove it.
4. Flip the Media Support Disk so that the desired core diameter ridge faces towards the inside of the printer. Please refer to Figure 8.
5. Re-secure the Support Disk by tightening it onto the attaching screw. Do not over tighten the Support Disk. It must be able to spin freely.

Repeat this procedure on the other Support Disk.

Always ensure that both Support Disks are adjusted for the same size media core.

Replace the Media Support Disks if they have been adjusted for different core sizes more than 5 (five) times.

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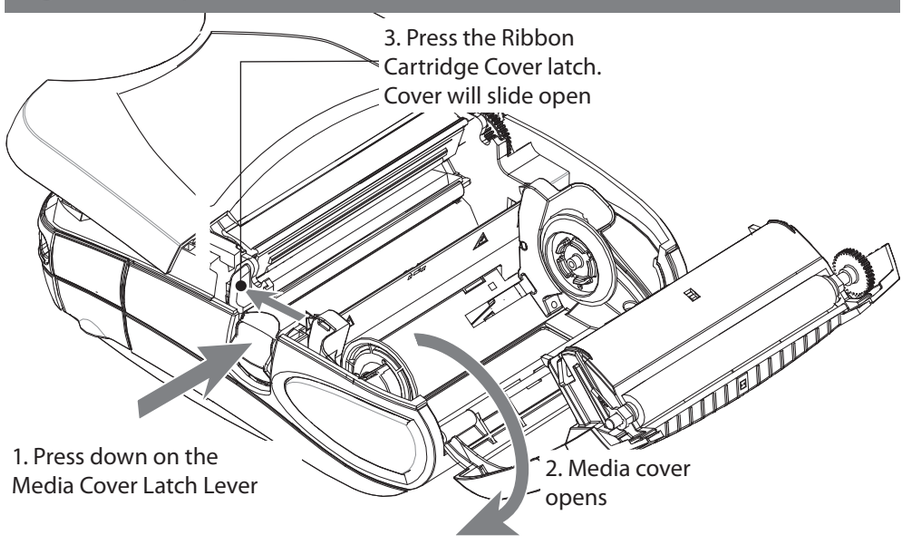
Load the Ribbon Cartridge

Figure 9.1-Open the Printer Covers


3. Press the Ribbon Cartridge Cover latch. Cover will slide open
1. Press down on the Media Cover Latch Lever
2. Media cover opens

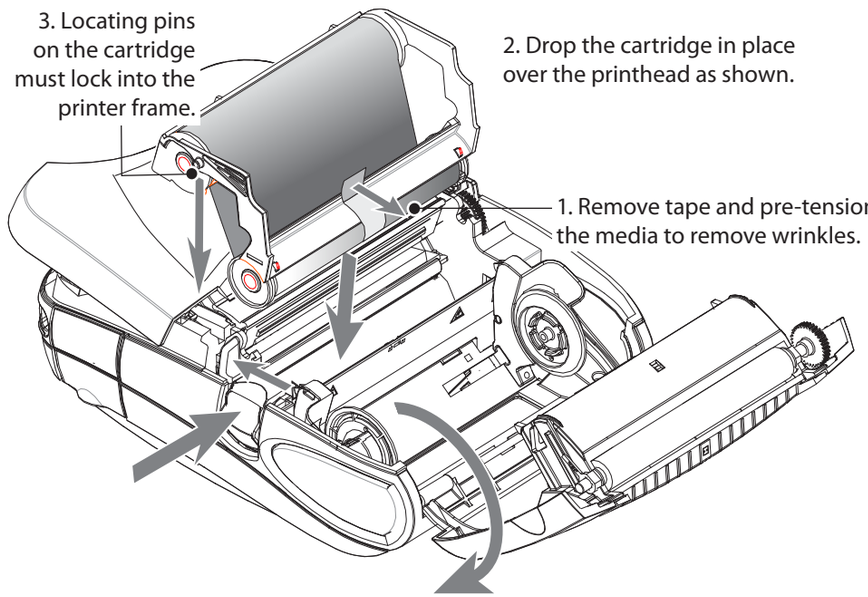
If you are using media that requires Thermal Transfer media, perform this step. If you are using journal stock, or media that uses direct thermal technology to print labels, omit this step.

1. Open the Printer Covers

Refer to Figure 9.1.

- Press the latch release button on the side of the printer as shown at "1" in figure 9.1. The media cover will open automatically
- Press on the Ribbon Cartridge Cover latch. The cover will slide open.

Figure 9.2-Load the Ribbon Cartridge


3. Locating pins on the cartridge must lock into the printer frame.
2. Drop the cartridge in place over the printhead as shown.
1. Remove tape and pre-tension the media to remove wrinkles.

2. Load the Ribbon Cartridge.

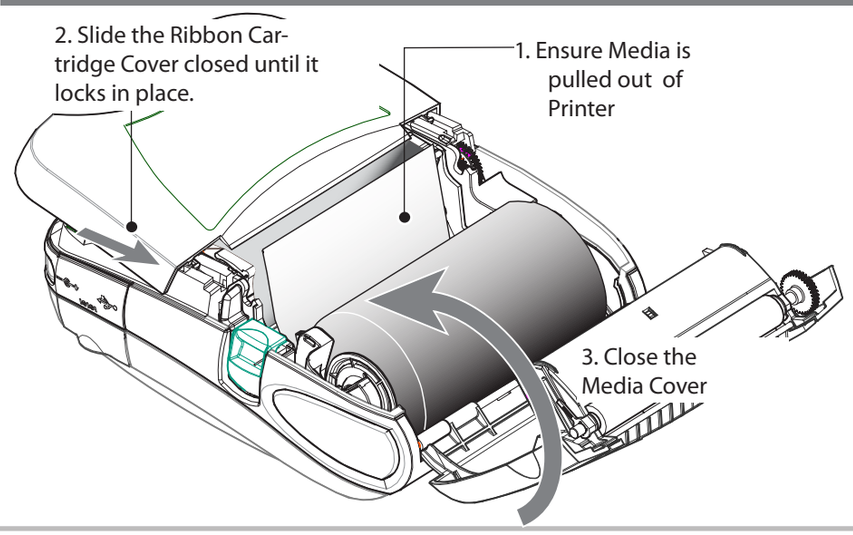
Refer to Figure 9.2.

Select the correct Thermal Transfer cartridge for the media you will be using. Consult a Zebra sales representative for information regarding proper media selection for your application.

- Remove the tape holding the transfer ribbon in place.
- Pre-tension the transfer ribbon to remove wrinkles by turning the take-up roll until the media is stretched flat between the two rolls of the Ribbon Cartridge cartridge.
- Drop the appropriate cartridge in place. The locating pins on either side of the cartridge must be secured in the printer frame.

The Ribbon Cartridges are protected by a security device which verifies compatiblity with P4T Series printers. Use of third party cartridges will cause the printer to malfunction, and will void the factory warranty.

Figure 9.3-Close the Printer Covers


2. Slide the Ribbon Cartridge Cover closed until it locks in place.
1. Ensure Media is pulled out of Printer
3. Close the Media Cover

3. Close the Printer Covers

Refer to Figure 9.3.

- If you have not done so, load label media into the printer as detailed previously, ensuring that the media has been pulled out of the printer past the printhead.
- Slide the Ribbon Cartridge cover closed until it latches in place.

Always close the Ribbon Cartridge cover before closing the media cover.

- Close the media cover and ensure it latches in place.

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Printer Controls

Operator Controls

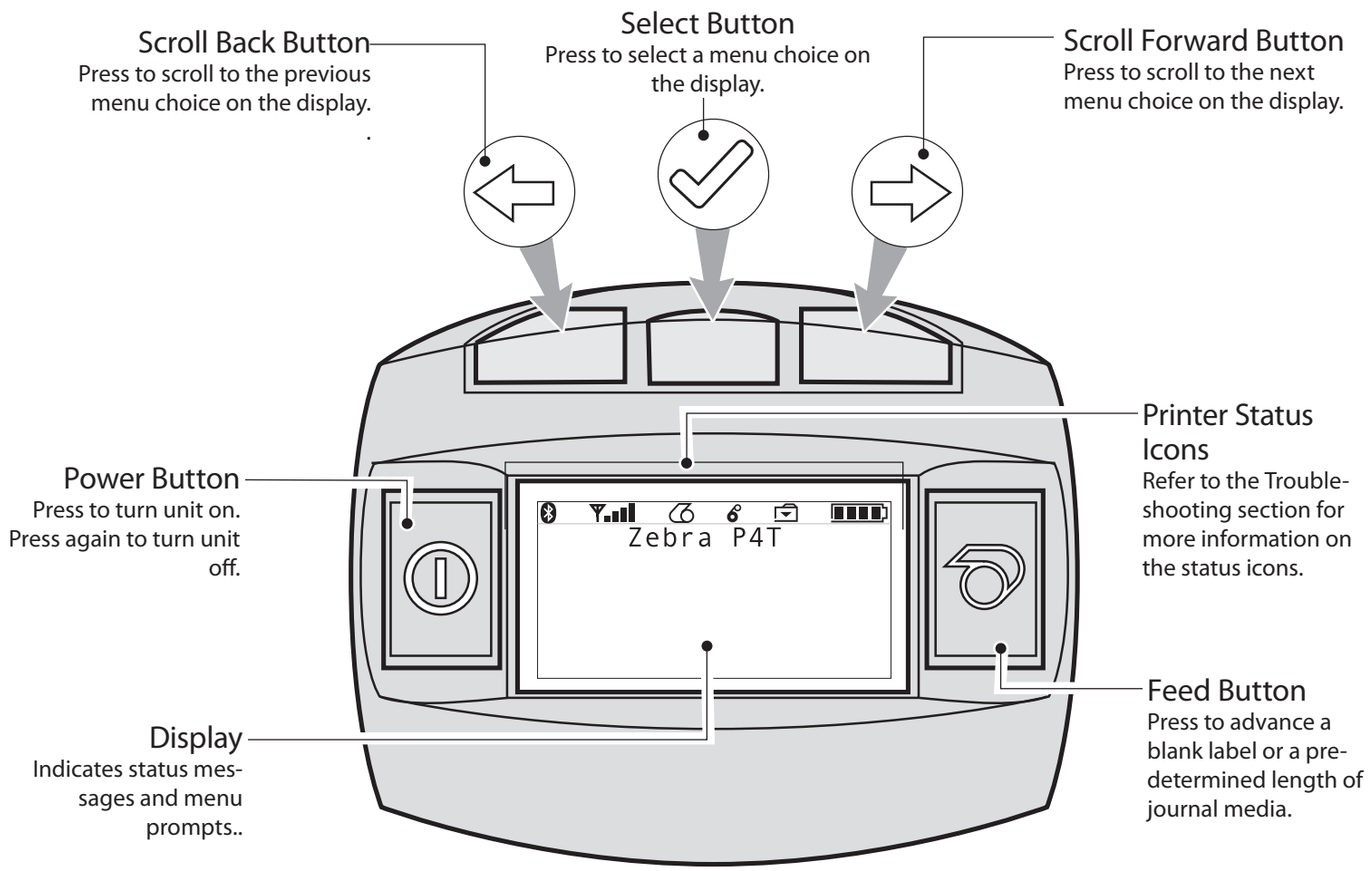
The printer control panel has buttons for the power on/off and media feed functions and a display which provides information regarding printer functions and application prompts. Two navigation keys provide easy selection of menu options.

The "Scroll Forward" button allows scrolling through the various options and settings. The "Scroll Back" button allows scrolling back through previously viewed menus. Pressing the "Select" button selects the currently highlighted option or function.

The status icons at the top of the screen indicate the state of various printer functions per the table below. Refer to the Troubleshooting section for more information on the printer status icons.

	Indicates a Bluetooth connection is established. This icon is functional only on P4T Series printers with a Bluetooth wireless option installed.
	Indicates that the printer is associated with a wireless Local Area Network (LAN) using an 802.11b/g compliant radio. This icon is functional only on a P4T Series printer with a WLAN wireless option installed.
	A flashing icon indicates that the printer does not detect any label media. This could indicate an out of media condition, or improperly loaded media.
	A flashing icon indicates that the thermal transfer film is depleted.
	A flashing icon indicates that data is being transferred to the printer.
	A flashing outside element of the battery icon indicates low charge status. You should suspend any printing operations and recharge or replace the Battery Pack as soon as is convenient.
	Cycling charge level elements within the battery icon indicate the P4T Series battery is being charged by the AC Adapter. Refer to Charger section of this manual.

Figure 10 -P4T Series Printer Controls & LCD Icons


Scroll Back Button
Press to scroll to the previous menu choice on the display.
Select Button
Press to select a menu choice on the display.
Scroll Forward Button
Press to scroll to the next menu choice on the display.
Power Button
Press to turn unit on. Press again to turn unit off.
Printer Status Icons
Refer to the Trouble-shooting section for more information on the status icons.
Zebra P4T
Display
Indicates status mes-sages and menu prompts..
Feed Button
Press to advance a blank label or a pre-determined length of journal media.

If the printer displays: "Please Recondition the Battery" and beeps five times, the user should recondition the battery to return it to optimal operation.
To recondition the battery, charge the battery fully overnight and then use the printer until the printer shuts down due to a low battery condition.
Charge the battery again until it is fully charged. At that point the battery will be reconditioned. If the battery is not reconditioned properly the indicated battery charge level will indicate that there is more charge remaining in the battery pack than is actually available. Reconditioning performed as prompted by the printer will ensure accurate capacity indication throughout the serviceable life of the battery pack.

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Programmable LCD Settings

In addition to the status icons, the LCD on the control panel can display many of the printer's settings and functions as text as determined by the printer's application. Applications can be written to allow the user to view and /or modify these settings using the scroll and select keys on the display. Refer to the following tables for a partial set of printer features that can be programmed to display on the LCD.

The LCD has a backlighting option which allows viewing of the screen in a dark environment, or provides better contrast in a very bright environment. Use of the display backlight will decrease the time the printer will run between charges. Refer to the section "Extending Battery Life" for more information.

Extended LCD Functions

Function	Default setting	Scroll & Select Options
Sensor Type	Bar	• Bar
		• Gap
Baud Rate	19200	• 9600
		• 19200
		• 32400
		• 57600
		• 115200
Data Bits	8	• 7
		• 8
Parity	N (none)	• E (Even)
		• N (None)
		• O (Odd)
LCD Contrast	8	• Increase (15max.)
		• Decrease (15 max.)
No-activity Timeout	120 sec.	• Decrease (0 min.)[2]
		• Increase (120 max.)
Audio Volume	3	• 1 – Low
		• 2 – Medium
		• 3 - High
Media Type	Journal	• Journal
		• Label
LCD Backlight[3]	Momentary On	• Momentary On w/ time delay
		• Off
Factory Reset (Resets all to factory set values)	No	• No
		• Yes

NOTES:
1: LCD menu options are under specific application control. Not all options may be available In your printer's application.
2: A No-activity timeout value of "0" means the printer will remain on until powered off by the operator.
3: LCD Backlight turns on when any key other than FEED is pressed.

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Display Functions Not Controlled from the Keypad

While the parameters in this table can appear on the display they can be set only by using a PC running Zebra's Label Vista label creation program and a data cable link to the printer.

Function	Default setting	Scroll & Select Options
WLAN ID	Factory Set Value	N/A
Tear-off Position (Top of Form)	00	• Increase (max. = +10)
		• Decrease (min. = -120)
Network & RF Settings		• All protocols On
		• Protocols On or Off individually
Bridge Mode	Off	• Off
		• On
DTR/VBUS-Power Off	Off	• On
		• Off
Present-at	000	• Increase (max.= +120)
		• Decrease (min. = 000
Bluetooth parameters	n/a	Displays current Bluetooth operating parameters
802.11g operating parameters	n/a	Displays current 802.11g WLAN parameters
Media Type	Journal	•Journal
		•Label

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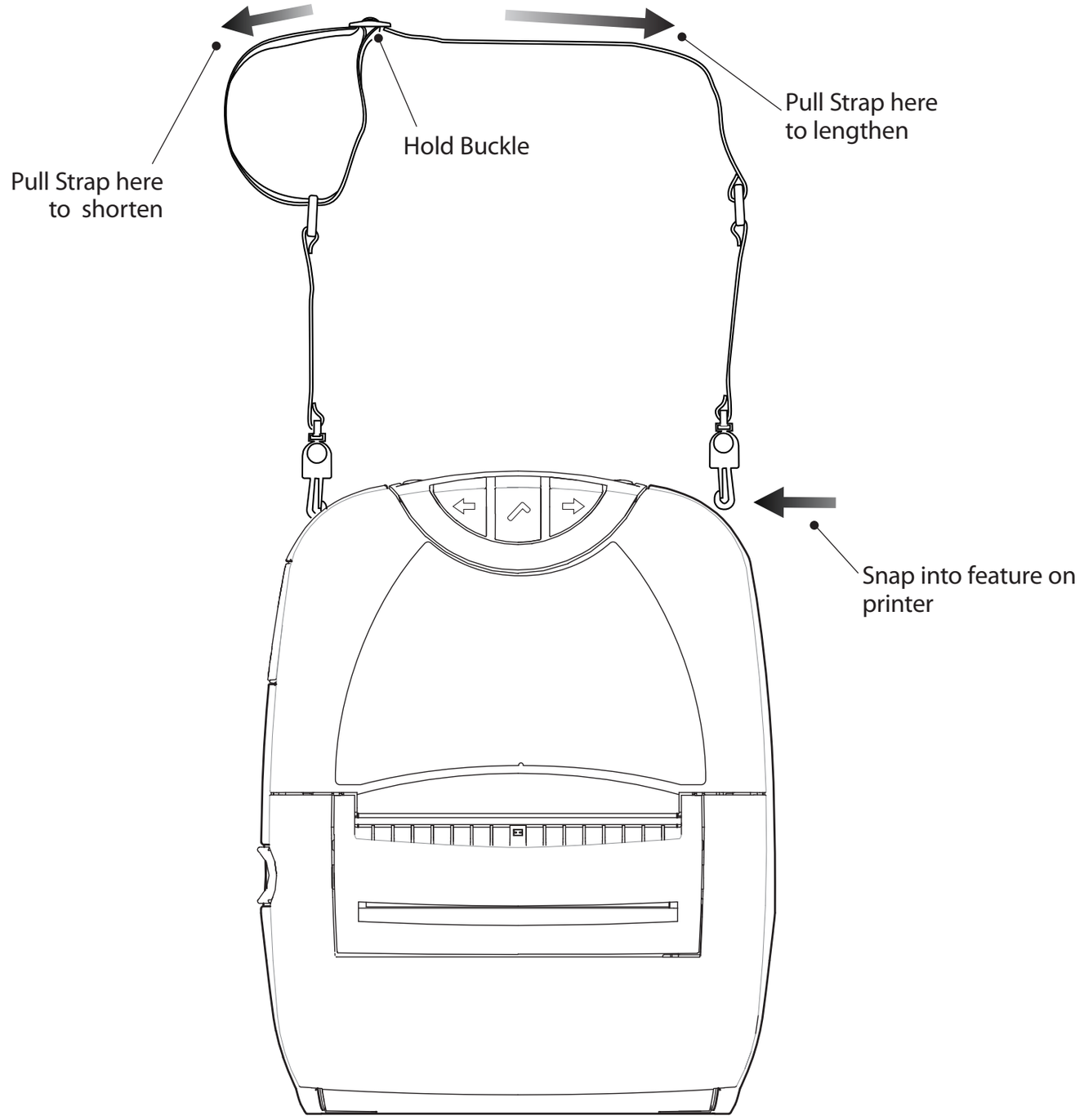
Adjustable Shoulder Strap

Figure 11- Shoulder Strap



Refer to figure above. Snap each end of the shoulder strap into the retaining features on top of the printer. Hold the buckle and adjust the strap as shown until you achieve the desired length.

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Verify the Printer Is Working

Before you connect the printer to your computer or portable data terminal, make sure that the printer is in proper working order. You can do this by printing a configuration label using the "two key reset" method. If you can't get this label to print, refer to the "Troubleshooting" section of this manual

Printing a Configuration Label

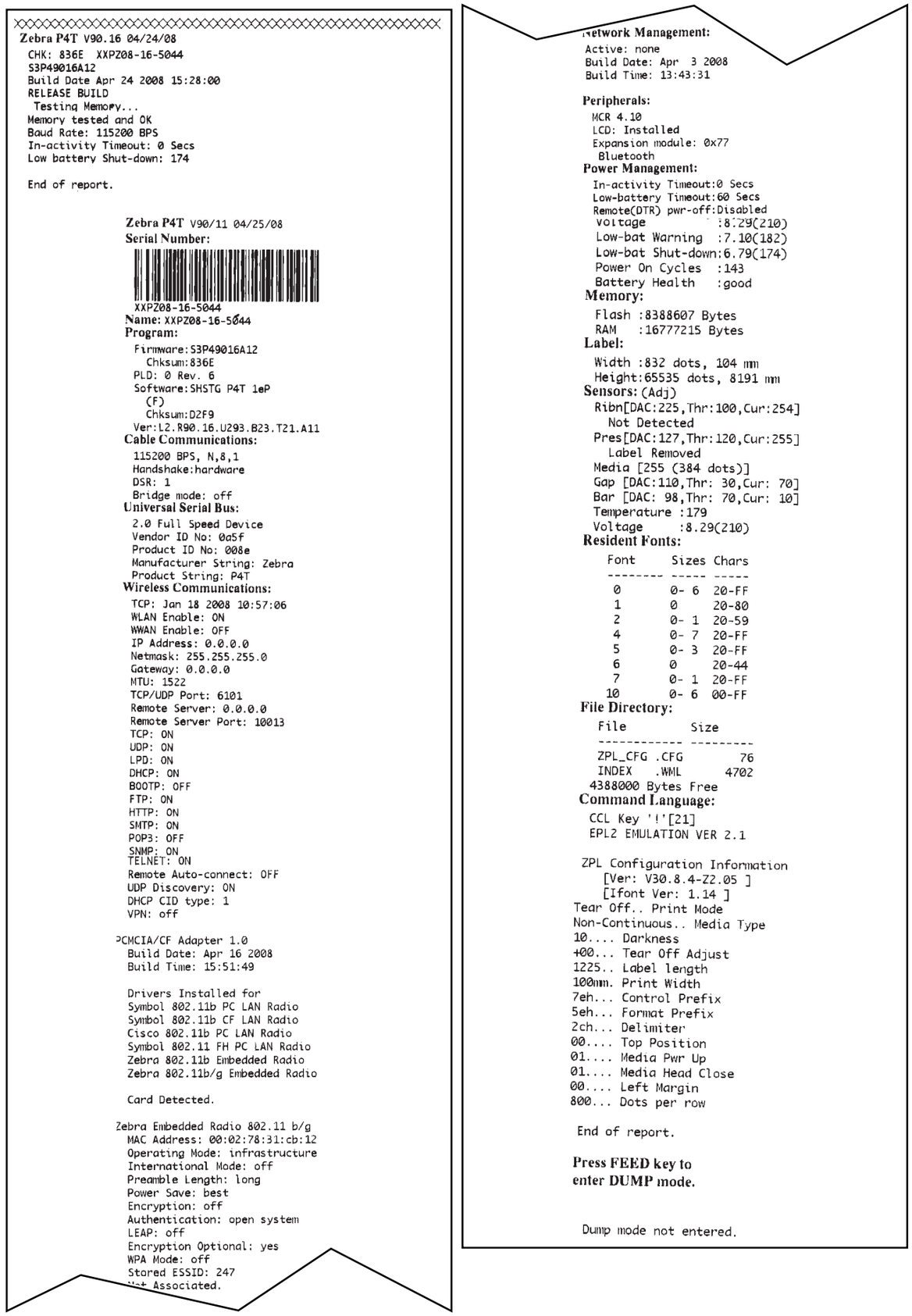
1. Turn the printer off. Load the media compartment with journal media (media with no black bars printed on the back)
2. Press and hold the Feed Button.
3. Press and release the Power button and keep the Feed button pressed. When printing starts, release the Feed button.

The unit will print a line of interlocking "x" characters to ensure all elements of the printhead are working, print out the version of software loaded in the printer and then print two reports.

The first report indicates the printer model, ROM version, serial number, baud rate, etc. The second report prints out more detailed information on the printer's configuration and parameter settings. If no second report appears, there is no application loaded.

See the Troubleshooting Section for a further discussion on how to interpret the configuration label as a diagnostic tool.

Figure 12 -Sample P4T Series Configuration Label



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Connecting the Printer

The printer must establish communications with a host device which sends the data to be printed. Communications occur in three basic ways:

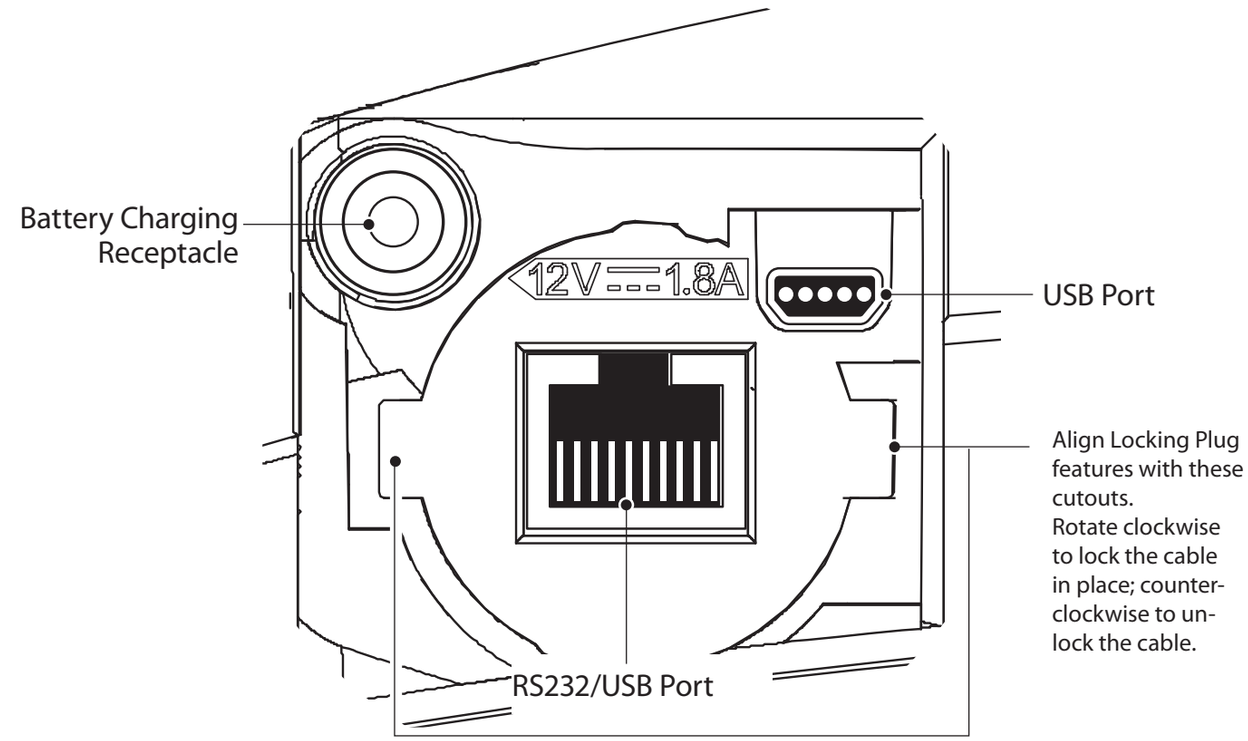
- By a cable between the printer and its host terminal using either RS232C or USB protocols
- By means of a Bluetooth short-range radio frequency link
- By means of a wireless LAN (Local Area Network) per 802.11b/g specifications

Cable Communications

Caution • The printer should be turned off before connecting or disconnecting any communications cable.

Note • All P4T series printers can communicate by cable; the specific cable used with your printer can vary with the host terminal.

Figure 13: P4T Series Communication Ports


Battery Charging Receptacle
12V 1.8A
USB Port
Align Locking Plug features with these cutouts. Rotate clockwise to lock the cable in place; counter-clockwise to un-lock the cable.
RS232/USB Port

Serial (RS232C) or USB Port

The 10- pin modular connector on your communications cable plugs into the combination RS232C/USB communications port on the side of the printer. Signals and pin assignments for both communications ports are in the Specifications section of this manual.

The protocol used with this port is determined by the communications cable you are using. Refer to Appendix A for more information on the communications cables offered with the P4T Series.

Plug the connector into the RS232 port and ensure its locking device has clicked into position.

The other end of the cable must be plugged into the host terminal as shown in Figure 14, or to a serial port on a computer as shown in Figure 15.

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USB

P4T Series Printers also have a USB type B port located directly above and to the right of the RS232C port. (Refer to Figure 13)

The USB port is configured with the USB Open HCI interface driver allowing it to communicate with Windows® based devices. USB drivers are included in the Zebra Universal Driver which can be downloaded from www.zebra.com. Other terminals or communications devices may require the installation of special drivers to use the USB connection. Consult your Zebra re-seller or the factory for further details.

Figure 14- Connecting to a Terminal

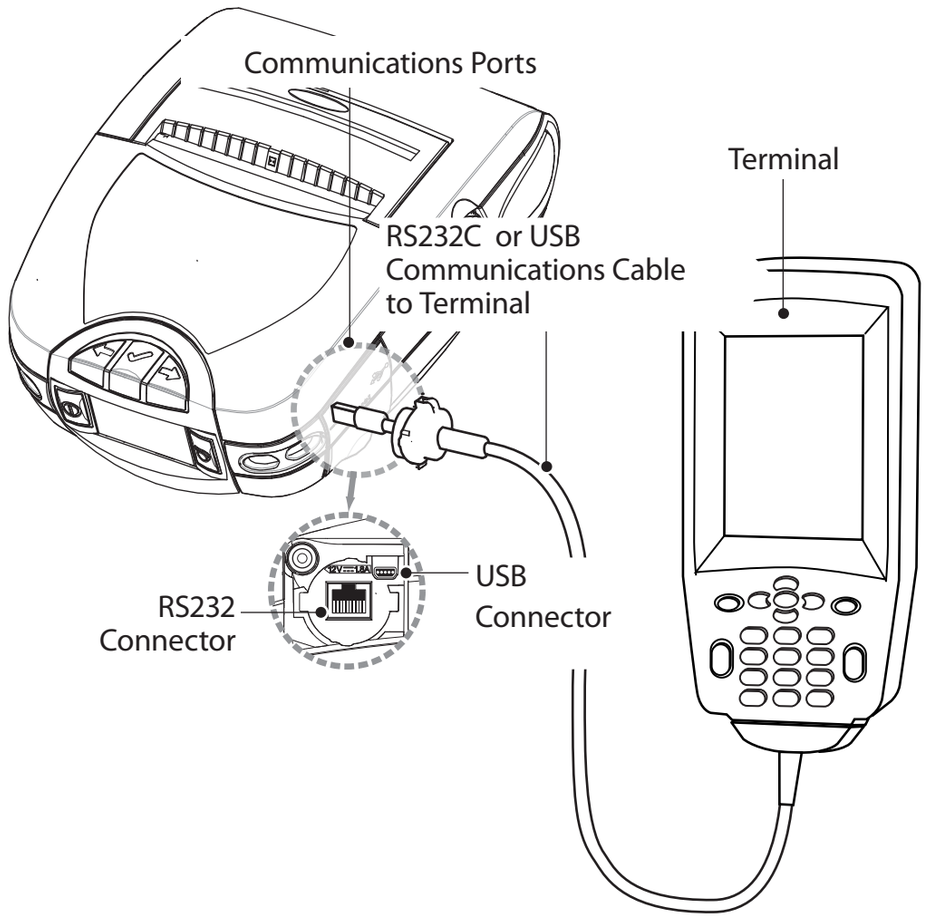
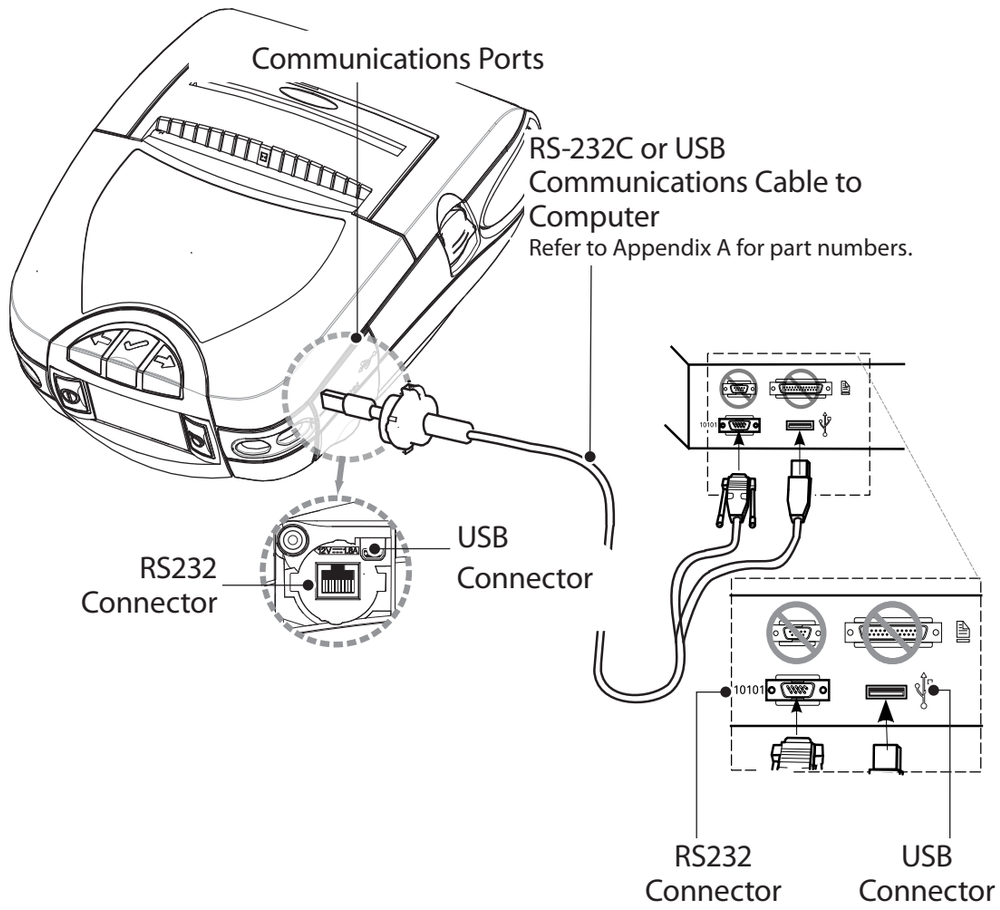


Figure 15- Connecting to a PC



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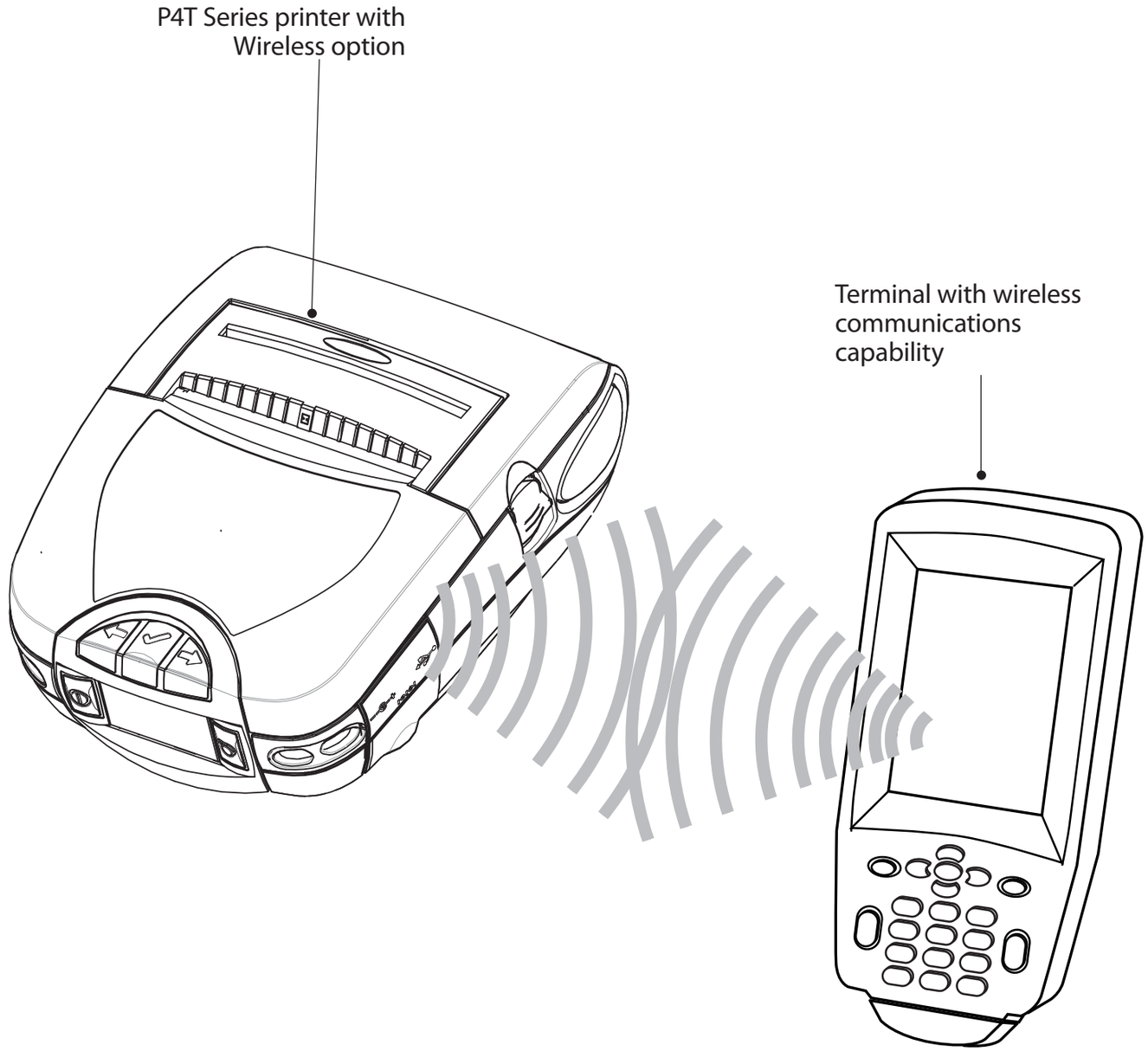
Connect the Printer by Radio

If your P4T Series printer has a radio option, you can connect wirelessly to either a terminal or a wireless network (WLAN.) Refer to the Mobile Printer Wireless Configuration Guide available on the product CD or at www.zebra.com/manuals for help on setting up wireless communications with your printer.

Figure 16- Connecting Wirelessly to a Terminal



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Wireless Communications

Wireless Communications with Bluetooth®

"Bluetooth" is a worldwide standard for the exchange of data between two devices via radio frequencies. Bluetooth radios are relatively low powered to help prevent interference with other devices running at similar radio frequencies. This limits the range of a Bluetooth device to about 10 meters (about 32 feet).

Both the printer and the device it communicates with must follow the Bluetooth standard.

Bluetooth Networking Overview

Each Bluetooth enabled P4T series printer has a unique Bluetooth Device Address (BDA) loaded into its radio module when manufactured.

Bluetooth software is always running in the background, ready to respond to connection requests. One device (known as the master or the client) must request a connection with another. The second device (the slave or the server) then accepts or rejects the connection. A Bluetooth enabled P4T series printer will normally act as a slave creating a miniature network with the terminal sometimes referred to as a "piconet."

For the most part, communications using Bluetooth are initiated and processed without any operator intervention.

P4T Series printers can be equipped with both a Bluetooth and an 802.11b/g radio, allowing communications with both Bluetooth enabled devices and a Wireless Local Area Network (WLAN) (see discussion below).

Wireless Local Area Network Overview

P4T Series printers can be equipped with several radio options which use the industry standard 802.11b or g WLAN protocols.

- P4T Series Wireless Network Printers with the Zebra 802.11b/g WLAN radio module can be identified by the Product Configuration Code (PCC) on the serial number label on the back of the printer. Printers with this option will have a "K" as the seventh character of the PCC Code. Printers with this option may also be identified by the FCC ID: I28-PLAN11BG, or the Industrie Canada ID: 3798B-PLAN11BG on printers built for the North American region.
- P4T printers with both an 802.11b/g WLAN radio and a Bluetooth radio running in the same unit are considered to be dual radio devices. Printers with this option will have an "A" as the seventh character of the PCC Code.

RP4T model printers cannot be configured with the 802.11g/ Bluetooth dual radio option.

Such dual radio equipped P4T units will have an FCC ID: I28-ZB4LAN-01 and and an Industrie Canada ID: 3798B-ZB4LAN01. The FCC and IC ID numbers and other regulatory information for this radio configuration are also located on the serial number label of printers built for the North American region.

Refer to Appendix D of this manual for more information on locating the Product Configuration Code.

Printers equipped with either of the 802.11b/g radio options allow wireless communication as a node within a WLAN and its wireless capabilities allow communications from any point within the WLAN's perimeter. P4T printers equipped with the dual Bluetooth/802.11b/g WLAN radio configuration can be linked to both a WLAN and a Bluetooth network simultaneously.

Methods of establishing communications to P4T Series printers will vary with each LAN application. General information on establishing WLAN communications can be found in either the "CPCL Programmers Manual" or the "Quick Start Guide for Mobile Wireless Printers" both available on-line at the Zebra Web site www.zebra.com/manuals. More information and LAN configuration utilities may also be found in Zebra's Label Vista™ program (version 2.8 and later). The latest version of Label Vista may be downloaded from Zebra's Web site.

Setting Up the Software

P4T Series printers use Zebra's CPCL Programming language which was designed for mobile printing applications. CPCL is fully described in the "CPCL Programmers Manual", available on-line at the Zebra Web site.

You can also use Label Vista™, Zebra's Windows based label creation program which uses a graphical interface to create and edit labels in the CPCL language.

All P4T Series printers support an interpreter for the ZPL II programming language. RP4T printers (with RFID encoding/reading capabilities) use the ZPL programming language's extensive set of RFID commands.

If you plan to use ZPL II , refer to the appropriate Programming Guides available on-line from Zebra's Web site.

If you have a printer with wireless capabilities, you can refer to the "Wireless Configuration Guide." also available on the Zebra web site.

If you choose to use a third party label preparation system, follow the installation instructions included in the package.

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Radio Regulatory Information

Bluetooth ZBR4 Radio

The following section only applies when the Bluetooth ZBR4 module is installed in a P4T series printer. This radio configuration has demonstrated compliance to FCC regulations. P4T series printers with this configuration sold in North America will have the FCC ID: I28-MD-ZBR4WA and the Industrie Canada ID: 3798B-ZBR4WA for this radio module on a label on the back of the printer.

Caution • Exposure to Radio Frequency Radiation.

The radiated output power of this internal Bluetooth radio is far below the FCC radio frequency exposure limits. The internal Bluetooth radio operates within guidelines found in radio frequency safety standards and recommendations. Do not use the printer in an unauthorized manner.

Note • The following section only applies when the ZBR4 Bluetooth Radio is installed in a P4T Series printer. Unless specified elsewhere in this manual, the antenna used for this transmitter must not be co-located or must not operate in conjunction with any other antenna.

European Regulatory Information for the ZBR4 Bluetooth Radio

This device is intended for use in all EU and EFTA member states.
Europe – EU Declaration of Conformity
This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of compliance with the R&TTE Directive 1999/5/EC:

- EN55022
European Immunity Standard
- EN 60950-1
Safety of Information Technology Equipment
- EN 300 328
Technical requirements for spread-spectrum radio equipment
- EN 301 489

EMC requirements for spread-spectrum radio equipment.
This device is a 2.4 GHz wireless LAN transceiver, intended for indoor home and office use in all EU and EFTA member states.

CE

Important Notice:
This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states.

WLAN Module Using 802.11b/g Radio

The following section only applies when the 802.11b/g WLAN module is installed in a P4T series printer. Other than conditions specified elsewhere in this manual, only one of the radio options can be installed in the printer at one time and the antenna used for these transmitters must not be co-located or must not operate in conjunction with any other antenna.
P4T Series printers for sale in North America will have the 802.11b/g radio FCC ID: I28-PLAN11BG, and the Industrie Canada ID: 3798B-PLAN11BG printed on a label on the back of the unit.

Caution • The radiated output power of this internal 802.11b/g WLAN radio is far below the FCC radio frequency exposure limits. The internal radio operates within guidelines found in radio frequency safety standards and recommendations. Do not use the printer in an unauthorized manner.

European Regulatory Information for this Radio

AT	BE	CY	CZ	DK
EE	FI	~~FR~~	DE	GR
HU	IE	IT	LV	LT
LU	MT	NL	PL	PT
SK	SI	ES	SE	GB

Note: -Member states in the EU with restrictive use for this device are crossed out!
This device is also authorized for use in all EFTA member states (CH, IS, LI, NO)

CE !

Important Notice:
This device is a portable RF printer intended for commercial and industrial use in all EU and EFTA member states except in France where restrictive use applies

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Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of compliance with the R&TTE Directive 1999/5/EC:

- EN55022

European Emissions Standard

- EN 60950-1

Safety of Information Technology Equipment

- EN 300 328-2 V1.2.1

Technical requirements for spread-spectrum radio equipment

- EN 301 489-17 V1.2.1

EMC requirements for spread-spectrum radio equipment.

This device is a 2.4 GHz wireless LAN transceiver, intended for indoor home and office use in all EU and EFTA member states, except in France where restrictive use applies.

The use of this frequency band in France is subject to restrictions. You may only use channels 10 and 11 (2457 and 2462 MHz) on French territory, except in those French departments as listed in the table below where channels 1-13 (2412-2472 MHz) may be used. For more information see http://www.anfr.fr/ and/or http://www.art-telecom.fr

01	Ain	36	Indre	69	Rhone
02	Aisne	37	Indre et Loire	70	Haute Saone
03	Allier	39	Jura	71	Saone et Loire
05	Hautes Alpes	41	Loir et Cher	72	Sarthe
08	Ardennes	42	Loire	75	Paris
09	Ariege	45	Loiret	77	Seine et Marne
10	Aube	50	Manche	78	Yvelines
11	Aude	54	Meurthe et Moselle	79	Deux Sievres
12	Aveyron	55	Meuse	82	Tarn et Garonne
16	Charente	57	Moselle	84	Vaucluse
19	Correze	58	Nievre	86	Vienne
2A	Corse Sud	59	Nord	88	Vosges
2B	Haute Corse	60	Oise	89	Yonne
21	Cote d'Or	61	Orne	90	Territoire de Belfort
24	Dordogne	63	Puy de Dome	91	Essonne
25	Doubs	64	Pyrenees Atlantique	92	Hauts de Seine
26	Drome	65	Hautes Pyrenees	93	Seine St Denis
27	Eure	66	Pyrenees Orientales	94	Val de Marne
32	Gers	67	Bas Rhin		
35	Ille et Vilaine	68	Haute Rhin		

NCC (Taiwan) Compliance Statement

經型式認證合格之低功率射頻電機,非經許可,公司、商號或使用者均不得擅自變更頻率、加大功率或變更原設計之特性及功能。低功率射頻電機之使用不得影響飛航安全及干擾合法通信;經發現有干擾現象時,應立即停用,並改善至無干擾時方得繼續使用。前項合法通信,指依電信法規定作業之無線電通信。低功率射頻電機須忍受合法通信或工業、科學及醫療用電波輻射性電機設備之干擾。

" According to "Administrative Regulations on Low Power Radio Waves Radiated Devices" Without permission granted by the NCC, any company, enterprise, or user is not allowed to change frequency, enhance transmitting power or alter original characteristic as well as performance to a approved low power radio-frequency devices. The low power radio-frequency devices shall not influence aircraft security and interfere legal communications; If found, the user shall cease operating immediately until no interference is achieved. The said legal communications means radio communications is operated in compliance with the Telecommunications Act.

The low power radio-frequency devices must be susceptible with the interference from legal communications or ISM radio wave radiated devices."

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802.11b/g and Bluetooth Co-located Radio Modules

The following section only applies when the CF (Compact Flash) WLAN module and Bluetooth ZBR4 module are installed in a P4T printer. This co-located radio configuration has demonstrated compliance to FCC regulations. P4T printers with this configuration sold in North America will have the FCC ID: I28-ZB4LAN-01 and the Industrie Canada ID: 3798B-ZB4LAN01 for this radio configuration printed on a label on the back of the printer.

Caution • Use of a P4T printer with the co-located ZBR4 Bluetooth radio module and the 802.11b/g WLAN radio module meets the FCC requirements for radio frequency (RF) radiation exposure in the standard body worn configuration with no minimum separation. In this configuration, which applies whether the belt clip or shoulder strap is used, the face of the printer from which paper is transported is facing away from the user's body. The standard configuration must always be used when the printer is body worn.

The radiated output power of this radio configuration is far below the FCC radio frequency exposure limits. Both the internal Bluetooth and the 802.11b/G radio operate within guidelines found in radio frequency safety standards and recommendations. Do not use the printer in an unauthorized manner.

RP4T printers are not configured with this radio option.

European Regulatory Information for the Compact Flash 802.11b Radio and Bluetooth Co-located Radio Modules

AT	BE	CY	CZ	DK
EE	FI	~~FR~~	DE	GR
HU	IE	IT	LV	LT
LU	MT	NL	PL	PT
SK	SI	ES	SE	GB

Note: -Member states in the EU with restrictive use for this device are crossed out!
This device is also authorized for use in all EFTA member states (CH, IS, LI, NO)

Europe – EU Declaration of Conformity

This device complies with the essential requirements of the R&TTE Directive 1999/5/EC. The following test methods have been applied in order to prove presumption of compliance with the R&TTE Directive 1999/5/EC:

- EN 60950-1

Safety of Information Technology Equipment

- EN 300 328-2 V1.2.1

Technical requirements for spread-spectrum radio equipment

- EN 301 489-17 V1.2.1

EMC requirements for spread-spectrum radio equipment.

This device is a 2.4 GHz wireless LAN transceiver, intended for indoor home and office use in all EU and EFTA member states, except in France where restrictive use applies.

The use of this frequency band in France is subject to restrictions. You may only use channels 10 and 11 (2457 and 2462 MHz) on French territory, except in those French departments as listed in the table below where channels 1-13 (2412-2472 MHz) may be used. For more information see http://www.anfr.fr/ and/or http://www.art-telecom.fr

01	Ain	36	Indre	69	Rhone
02	Aisne	37	Indre et Loire	70	Haute Saone
03	Allier	39	Jura	71	Saone et Loire
05	Hautes Alpes	41	Loir et Cher	72	Sarthe
08	Ardennes	42	Loire	75	Paris
09	Ariege	45	Loiret	77	Seine et Marne
10	Aube	50	Manche	78	Yvelines
11	Aude	54	Meurthe et Moselle	79	Deux Sievres
12	Aveyron	55	Meuse	82	Tarn et Garonne
16	Charente	57	Moselle	84	Vaucluse
19	Correze	58	Nievre	86	Vienne
2A	Corse Sud	59	Nord	88	Vosges
2B	Haute Corse	60	Oise	89	Yonne
21	Cote d'Or	61	Orne	90	Territoire de Belfort
24	Dordogne	63	Puy de Dome	91	Essonne
25	Doubs	64	Pyrenees Atlantique	92	Hauts de Seine
26	Drome	65	Hautes Pyrenees	93	Seine St Denis
27	Eure	66	Pyrenees Orientales	94	Val de Marne
32	Gers	67	Bas Rhin		
35	Ille et Vilaine	68	Haute Rhin		

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RFID Encoder

The following section only applies when the RFID encoder is installed in an RP4T printer. The RFID encoder may be installed in conjunction with either the Bluetooth or 802.11g radio options detailed previously, but may not be installed with the Bluetooth/802.11g dual radio option.

RP4T Series printers will have the fifth character of the Product Configuration Code (PCC), which determines country compatibility for the RFID encoder, per the following table:

RFID option	PCC digit "5"	Printer Model
No RFID	0	P4T
US	U	RP4T
EU	1	RP4T
Australia	2	RP4T
Taiwan	6	RP4T
New Zealand	8	RP4T
Brazil	9	RP4T
China	A	RP4T
Malaysia	B	RP4T
Phillipines	C	RP4T
India	D	RP4T
El Salvador	E	RP4T
Isreal	F	RP4T
Japan	G	RP4T
Korea	H	RP4T

The following table lists FCC and Industrie Canada ID numbers for the various configurations of RP4T printer radio options.

Configuration	FCC ID:	Industrie Canada ID:
RFID Encoder	I28RFID-M5ECZ-01	3798B-M5ECZ01
RFID Encoder & 801.11b/G Radio)	I28RFID-R4LANG-01	3798B-R4LANG01
RFID Encoder & BT2.0 Radio	I28RFID-M5ZBR4-01	3798B-M5ZBR401:

Caution • Exposure to Radio Frequency Radiation.

The radiated output power of this RFID encoder is far below the FCC radio frequency exposure limits. The RFID encoder operates within guidelines found in radio frequency safety standards and recommendations. Do not use the printer in an unauthorized manner.

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Model RP4T RFID Encoder

The information in this section is provided for your convenience only and is subject to change. Go to http://www.epcglobalinc.org for the latest EPC information.

The RP4T printer is equipped with an RFID encoder/reader, which is integrated into the printer's printhead assembly. The RP4T encodes (writes) information on ultra-thin UHF RFID transponders that are embedded in "smart" labels, tickets, and tags. The printer encodes the information; verifies proper encoding; and prints bar codes, graphics, and/or text on the label's surface. The RP4T printer uses Zebra's extensive set of RFID commends running under ZPL programming language emulation.

The RFID transponder is sometimes called the RFID tag or an inlay. The transponder is usually made of an antenna that is bonded to an integrated circuit (IC) chip. The IC chip contains the RF circuit, coders, decoders, and memory. If you hold an RFID label up to the light, you can see the transponder's antenna, and you can feel a bump in the label where the IC chip is located.

The RP4T can encode and verify EPC (Electronic Product Code) Generation 2 Class 1 UHF passive RFID tags, in addition to printing human readable text and conventional 1 and 2-D barcode information on Zebra supplied RFID thermal transfer media.

EPC is a product numbering standard that can be used to identify a variety of items by using RFID technology. EPC Generation 2 tags offer advantages over other tag types. The tag identification (TID) memory in a Generation 2 tag includes the chip manufacturer and model number information, which can be used to identify which optional features are present on the tag. These optional features include those for data content and security.

Gen 2 tags typically have a 96-bit EPC identifier, which is different from the 64-bit identifiers common in early EPC tags. The 96-bit EPC code links to an online database, providing a secure way of sharing product-specific information along the supply chain.

Gen 2 tags also support much larger data structures. The size of user memory available (if any) varies by the model and manufacturer of the tag.

Print quality will be reduced when attempting to print over the transponder portion of an RFID label. It is recommended that RFID label layouts should not allow printing over the RFID transponder portion of a label.

Generation 2 Class 1 UHF Passive Tags Supported By The P4T

Alien Squiggle
Avery Dennison
Raflatac Onetenna
Omron Wave

Encoding and printing of an RFID label usually are completed on the first try, but some failures may occur. If you experience consistent encoding failures, it may signal a problem with the RFID tags, your label formats, or with the transponder placement.

If an RFID tag cannot be encoded, "VOID" will be printed on the label. The printer then attempts to read/encode "n" labels before the next format is attempted, where "n" is specified by the ZPL programming language "^RS" command. Acceptable values of "n" are 1 to 10 and the default is 3. After printing the defined number of voided RFID labels, printer will go into an error mode. The printer response to an error is defined by the RFID Setup command and will allow:

1. No Action (Label format causing the error is dropped)
2. Notification to the Host of the details of the error (Label format causing the error is dropped).

The user has control of where on the label the VOID is printed.

More information on the "^RS" command may be found in Zebra's RFID Programming Guide available on the corporate Web site.

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Preventive Maintenance

Extending Battery Life

- Avoid exposing the battery to direct sunlight or temperatures over 104 °F (40 °C).
- Always use a Zebra charger designed specifically for Lithium-Ion batteries. Use of any other kind of charger may damage the battery.

Caution • Do not print while an LI72 Single Charger is plugged into the unit. Unreliable battery charging can result.

- Use the correct media for your printing requirements. An authorized Zebra re-seller can help you determine the optimum media for your application.
- If you print the same text or graphic on every label, consider using a preprinted label.
- Choose the correct print darkness and print speed for your media.
- RP4T printers (with the RFID encoder/reader): adjust the encoder settings to use the minimum power required for the RFID media in use.
- Use software handshaking (XON/XOFF) whenever possible.
- Use the LCD display backlight only when necessary. Turn it off whenever it is not needed.
- Remove the battery from the printer if it won't be used for a day or more and you're not performing a maintenance charge.
- Consider purchasing an extra battery.
- Remember that any rechargeable battery will lose its ability to maintain a charge over time and can be recharged only a finite number of times before it must be replaced. The "Smart Battery" feature of the P4T Series monitors the battery pack's condition and will prompt you when a battery pack is nearing the end of its useful life.

Always dispose of used batteries properly. Refer to Appendix E for more information on proper battery disposal.

- When the printer displays "Please Recondition The Battery" and beeps five times, the user should recondition the battery to return it to optimal capacity Refer to the Operator Controls section of this manual for information in reconditioning the battery.

General Cleaning Instructions

Caution • Always turn the printer off before cleaning.

To avoid possible personal injury or damage to the printer, never insert any pointed or sharp objects into the printer.

Use care when working near the Tear Bar. The edges are very sharp.

Caution • The printhead can become very hot after prolonged printing. Allow it to cool off before attempting any cleaning procedures.

Caution • Use only cleaning agents specified in the P4T Series cleaning instructions. Zebra Technologies Corporation will not be responsible for damage caused by any other cleaning materials used on this printer.

Clean the printer with either the cleaning pen supplied with the printer or a cotton swab saturated with alcohol.

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P4T Series Cleaning

⚠ Caution • To avoid possible personal injury or damage to the printer never insert sharp or pointed objects into the printer mechanism.

Figure 17.1- P4T Series Cleaning

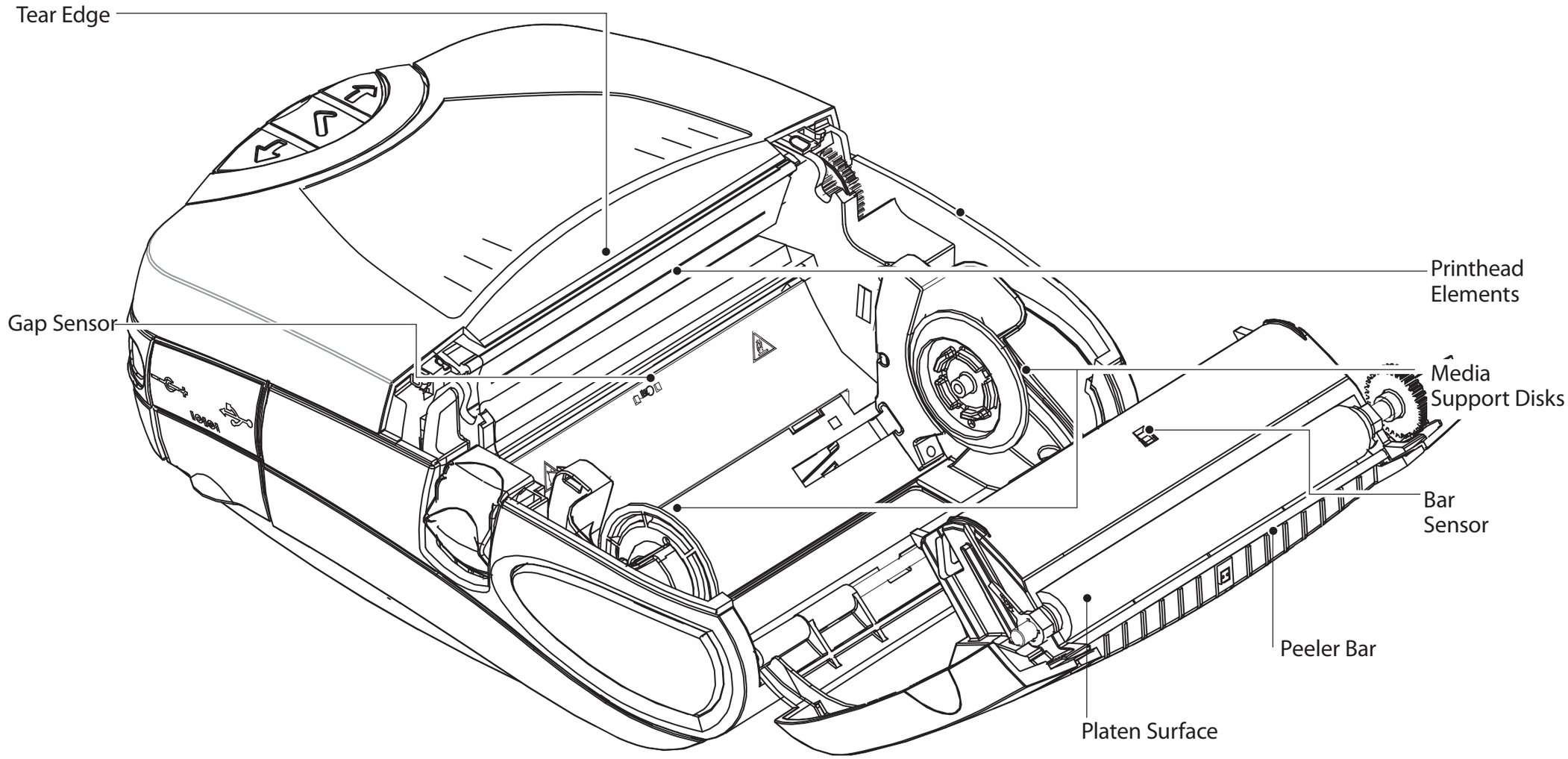
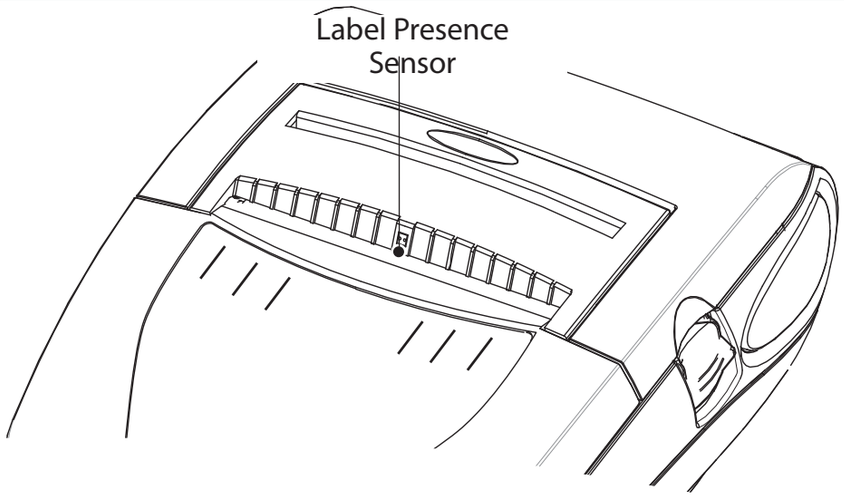


Figure 17.2- Cleaning the P4T Series Peeler Assembly



Area	Cleaning Method	Interval
Printhead Elements	Use the supplied cleaning pen to clean the print elements from end to end (the print elements are located in the thin gray line on the printhead).	After every five rolls of media (or more often, if needed)
Platen Surface	Rotate the platen roller and clean it thoroughly with the cleaning pen.	
Peeler Bar	Clean thoroughly with the cleaning pen.	As needed
Tear Edge		
Exterior	Wipe with water-dampened cloth	
Interior	Brush/air blow. Ensure the Bar Sensor, Gap Sensor and Label Present Sensor windows and the Media Support Disks are free of dust.	

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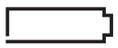
Troubleshooting

LCD Control Panel

The top of the display shows icons indicating the status of various printer functions. Check the icon's status and refer to the referenced Troubleshooting topic on the following pages.

Icon	Status	Indication	Ref. to Troubleshooting Topic
	On	Bluetooth link established	n/a
	Off	No Bluetooth link	6,8
	On	802.11b/g RF Link established	n/a
	Off	No 802.11b/g RF Link	6,8
	Number of bars indicates 802.11g signal strength		n/a
	Outer icon element flashing	Low Battery	4, 6,
	Number of bars indicates battery charge level. Display will cycle through the battery icons if it is undergoing a charge from the AC Adapter.		n/a
	Flashing	Battery too hot or too cold to charge	2
	Flashing	Out of Media	9
	Flashing	Ribbon Cartridge depleted	9
	Flashing	Data transfer in process	n/a
Blank Screen	n/a	Battery voltage too low to turn printer on or no application loaded	1,14

Troubleshooting Topics

1. No power:
   - Check that battery is installed properly.
   - Recharge or replace battery as necessary.
   - If the battery voltage is outside of the range at which the printer will turn on and the AC Adapter is plugged into printer, the printer will not turn on. The battery will start to charge, but the user will have no indication that the battery is charging. When the battery reaches a valid operating voltage range, the printer will still not turn on unless the user manually turns it on, or unplugs and re-plugs the charge cable.
2. AC Adapter is plugged in and the battery icon is alternately flashing  and .
   - Indicates that the battery is out of its safe charging temperature range. Charging will resume when the battery reaches a safe charging temperature.
3. Media does not feed:
   - Be sure printhead is closed and latched.
   - Check media support components for any binding.
   - If unit is equipped with label presence sensor, ensure the most recently printed label is removed.
   - Ensure label sensor is not blocked.

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Troubleshooting Topics (continued)

4. Poor or faded print or low battery icon (▮▮▮▮) flashing:
   - Clean printhead.
   - Check battery pack. Recharge or replace as necessary.

   Always dispose of used battery packs properly. Refer to Appendix E for more information.

   - Check quality of media.
5. Partial/missing print:
   - Check Ribbon Cartridge and/or label media alignment.
   - Clean printhead.
   - Ensure printhead is properly closed and latched.
6. No print:
   - Replace battery pack.
   - Check cable to terminal.
   - Wireless units only: Restore wireless connection.
   - Units using Thermal Transfer media: Ensure Ribbon Cartridge has been installed.
7. Reduced battery life:
   - Check battery pack date code. If battery is one to two years old, short life may be due to normal aging.
   - Check printer display. If battery has exceeded a factory set number of charge cycles the printer will display a message that the battery needs re-conditioning or replacing.
   - Replace battery pack.
8. Bluetooth or antenna icon off:
   - Units with Bluetooth or 802.11g option only: indicates no radio link has been established.
9. Ribbon or label icon flashing:
   - Check that label media is loaded.
   - Replace Ribbon Cartridge if depleted.
   - Check that the printhead is closed and securely latched.
10. Skips labels:
    - Ensure correct media is being used.
    - Ensure bar/ or gap sensor is not blocked.
    - Ensure label design does not exceed actual media length.
11. Prints “wrinkle pattern” or partial characters:
    - Ensure Ribbon Cartridge has been tensioned prior to installation. Problem will self-correct after printing a few labels.
    - Ensure label media tracks properly when emerging from printer. Use the alignment marks on the printer cover to ensure wrinkle free operation when loading media into the peeler assembly. Correct media alignment if necessary.
12. Prints multiple “Void” messages:
    - RP4T printers only: Ensure you have installed RFID media. Printer cannot verify RF encoding on non-RFID media and will print “Void” on a pre-set number of labels before stopping.
13. Communication Error:
    - Check media is loaded, head is closed and all error indicators are off.
    - Replace cable to terminal.
14. Screen blank
    - No application loaded. Attempt to re-load application and restart printer.
    - No power. See Topic “1” of this section.

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Troubleshooting Techniques

Printing a Configuration Label

To print out a listing of the printer's current configuration follow these steps:

1. Turn the printer off. Load the media compartment with journal media (media with no black bars printed on the back)
2. Press and hold the Feed Button.
3. Press and release the Power button and keep the Feed button pressed. When printing starts, release the Feed button.
4. The printer will create two reports. The first report is a basic functional test of the printer. It prints a series of interlocking "X" characters which acts as a test of the printhead elements and reports on basic features of the printer including memory installed.

   The second report is a detailed list of the printer's configuration, including any options installed (such as radios) and current status of system settings.

   Refer to Figures 18.1 through 18.2 for a sample configuration label printout.

Performing a Forced Shutdown

It the printer has locked up and is not responding to any operator inputs or external commands, from either a connected terminal or a linked LAN, you can perform a forced shutdown.

- If the printer software locks up during normal operation, force the printer to shut down by pressing and holding the Power Button for 3 seconds.
- If you try to turn the printer off normally and the software locks up, the printer will automatically shut itself off after a 10 second delay.
- If you try to turn the printer off and it does not respond, you can force an immediate shut down by pressing and holding the Power Button again within 10 seconds.

A forced shutdown will preserve the printer's data and settings.

Communications Diagnostics

If there's a problem transferring data between a terminal or WLAN, placing the printer in the Communications Diagnostics Mode (also referred to as the "DUMP" mode) will allow diagnostic analysis. The printer will print transmitted data as ASCII characters and their text representation (or a period "." if not a printable character) for any data received from the host terminal or network

To enter Communications Diagnostics Mode:

1. Print a configuration label as described above.
2. At the end of 2nd diagnostics report, the printer will print: "Press FEED key to enter DUMP mode."
3. Press the FEED key. The printer will print: "Entering DUMP mode."

Note • If the FEED key is not pressed within 3 seconds, the printer will print "DUMP mode not entered" and will resume normal operation.

4. At this point, the printer is in DUMP mode and will print the ASCII hex codes of any data sent to it, and their text representation (or "." if not a printable character).

Additionally, a file with a ".dmp" extension containing the ASCII information will be created and stored in the printer's memory. It can be viewed, "cloned" or deleted using the Label Vista application. (Refer the Label Vista documentation for more information.)

To terminate the Communications Diagnostics Mode:

1. Turn the printer OFF.
2. Wait 5 seconds.
3. Turn the printer ON.

The printer will resume normal operation.

Calling Technical Support

If the printer fails to print the configuration label, or you encounter problems not covered in the Troubleshooting Guide, contact Zebra Technical Support. You will need to supply the following information:

- Model number/type (e.g. P4T, RP4T)
- Unit serial number (14 digit number, including dashes) and Product Configuration Code (PCC) (15 digit number, including dashes). Refer to Appendix D for the location of these numbers.
- Technical support contact information may be found in Appendix D of this manual.

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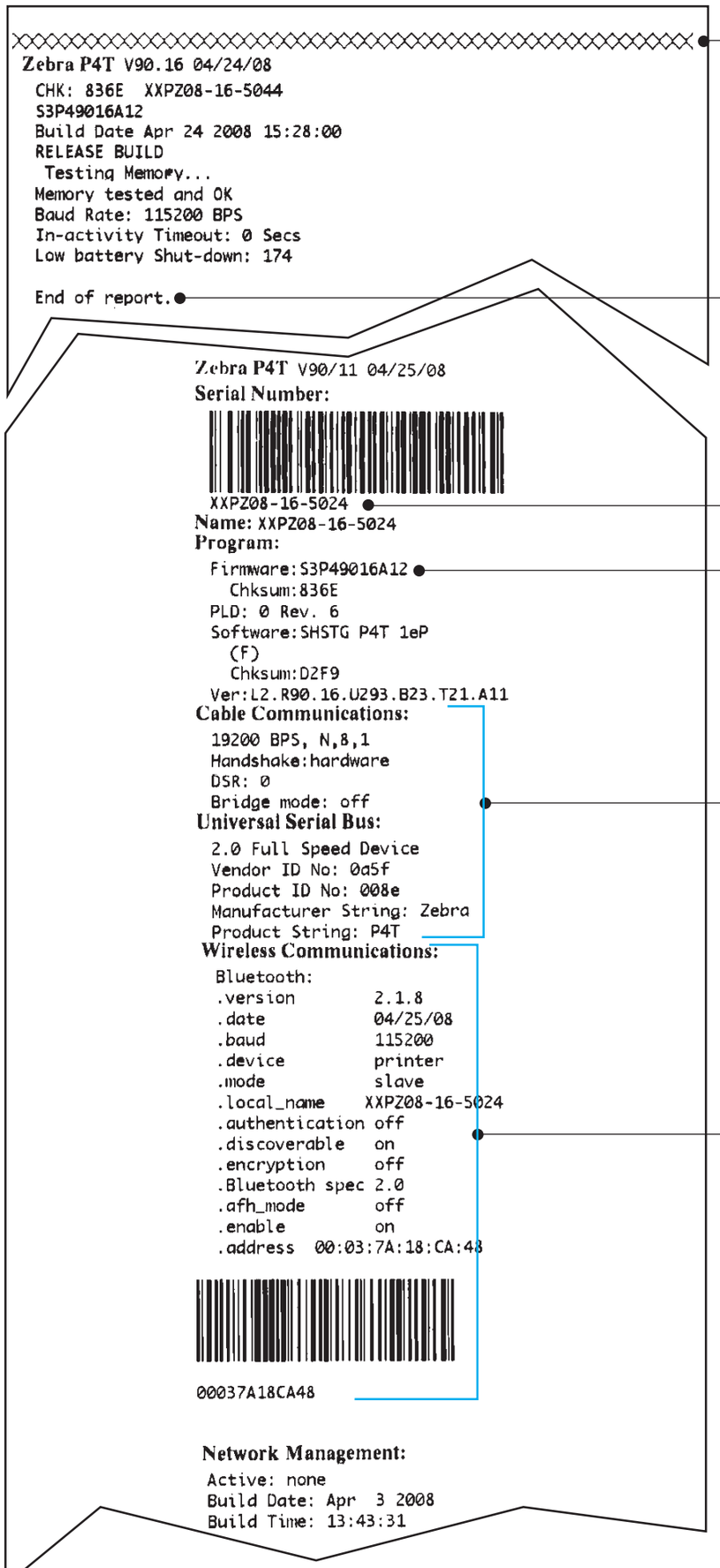
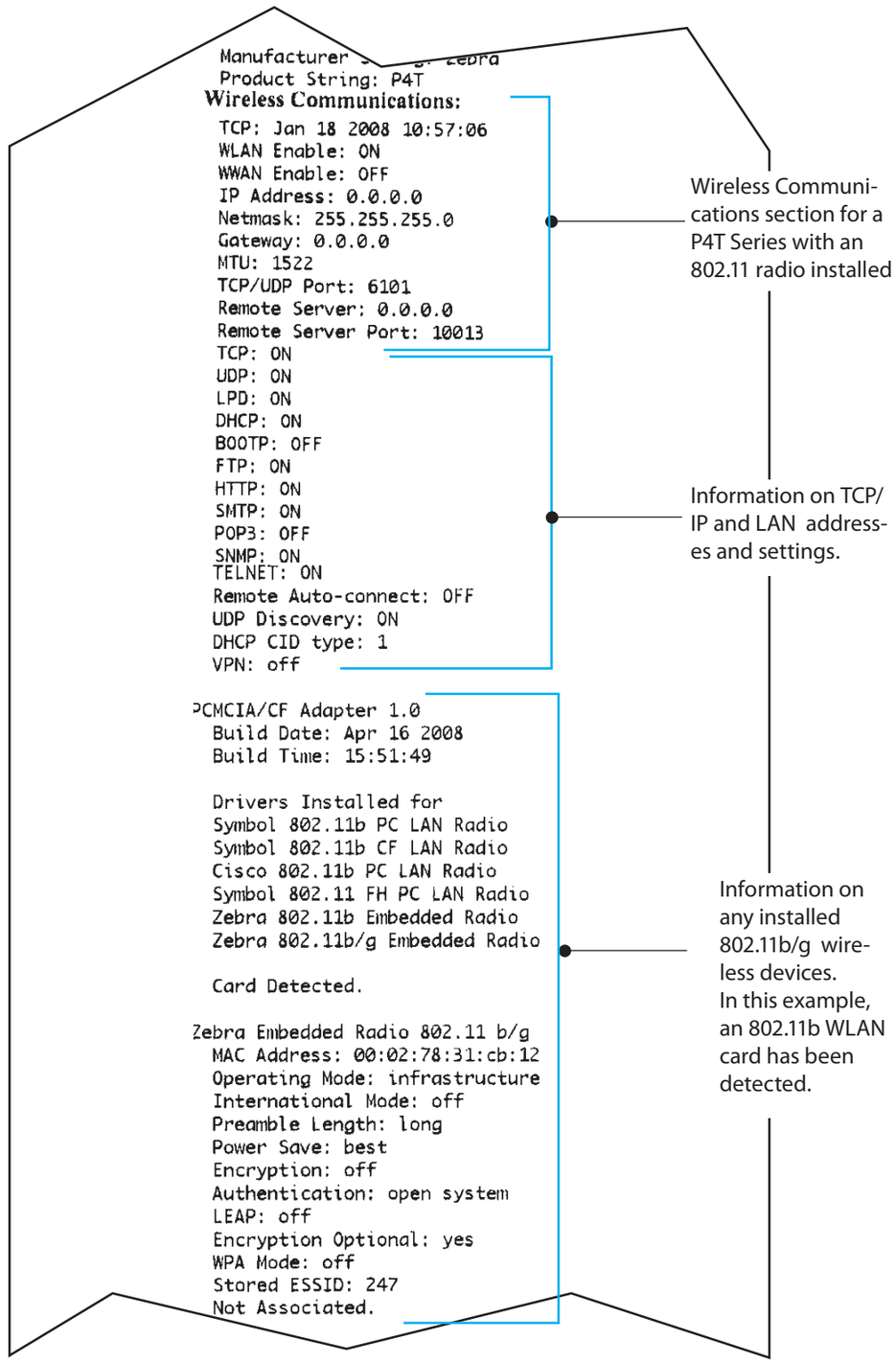
Figure 18.1- P4T Series Configuration Label Sample



Second diagnostic report for a printer with a Bluetooth radio

First diagnostic report for all P4T Series printers



Second diagnostic report for a printer with an 802.11b/g radio

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Figure 18.2- P4T Series Configuration Label Sample

```
Active: non
Build Date: Apr  3 2008
Build Time: 13:43:31

Peripherals:
 MCR 4.10
 LCD: Installed
 Expansion module: 0x77
  Bluetooth
Power Management:
 In-activity Timeout:0 Secs
 Low-battery Timeout:60 Secs
 Remote(DTR) pwr-off:Disabled
 Voltage          :8.29(210)
 Low-bat Warning  :7.10(182)
 Low-bat Shut-down:6.79(174)
 Power On Cycles  :143
 Battery Health   :good
Memory:
 Flash :8388607 Bytes
 RAM   :16777215 Bytes
Label:
 Width :832 dots, 104 mm
 Height:65535 dots, 8191 mm
Sensors: (Adj)
 Ribn[DAC:225,Thr:100,Cur:254]
   Not Detected
 Pres[DAC:127,Thr:120,Cur:255]
   Label Removed
 Media [255 (384 dots)]
 Gap [DAC:110,Thr: 30,Cur: 70]
 Bar [DAC: 98,Thr: 70,Cur: 10]
 Temperature :179
 Voltage     :8.29(210)
Resident Fonts:
  Font     Sizes Chars
  -------- ----- -----
   0       0- 6  20-FF
   1       0     20-80
   2       0- 1  20-59
   4       0- 7  20-FF
   5       0- 3  20-FF
   6       0     20-44
   7       0- 1  20-FF
  10       0- 6  00-FF
File Directory:
  File         Size
  ------------ ---------
  ZPL_CFG .CFG        76
  INDEX   .WML      4702
 4388000 Bytes Free
Command Language:
 CCL Key '!'[21]
 EPL2 EMULATION VER
```

Flash Memory Size

RAM Size

Maximum label dimensions and label sensor settings

Resident Fonts Installed

Files Loaded in Printer Memory. Will include file for LCD prompts (.wml format)

Amount of Memory Available

Second diagnostic report continued

```
  INDEX
 4388000 Byte  free
Command Language:
 CCL Key '!'[21]
 EPL2 EMULATION VER 2.1

 ZPL Configuration Information
    [Ver: V30.8.4-Z2.05 ]
    [Ifont Ver: 1.14 ]
Tear Off.. Print Mode
Non-Continuous.. Media Type
10.... Darkness
+00... Tear Off Adjust
1225.. Label length
100mm. Print Width
7eh... Control Prefix
5eh... Format Prefix
2ch... Delimiter
00.... Top Position
01.... Media Pwr Up
01.... Media Head Close
00.... Left Margin
800... Dots per row

End of report.

Press FEED key to
enter DUMP mode.


Dump mode not entered.
```

Command languges supported. P4T Series supports both CPCL languge and emulates ZPLII.

Configuration settings for ZPL language emulation

End of Configuration Report

End of second diagnostic report

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Specifications

Note.- Printer specifications are subject to change without notice.

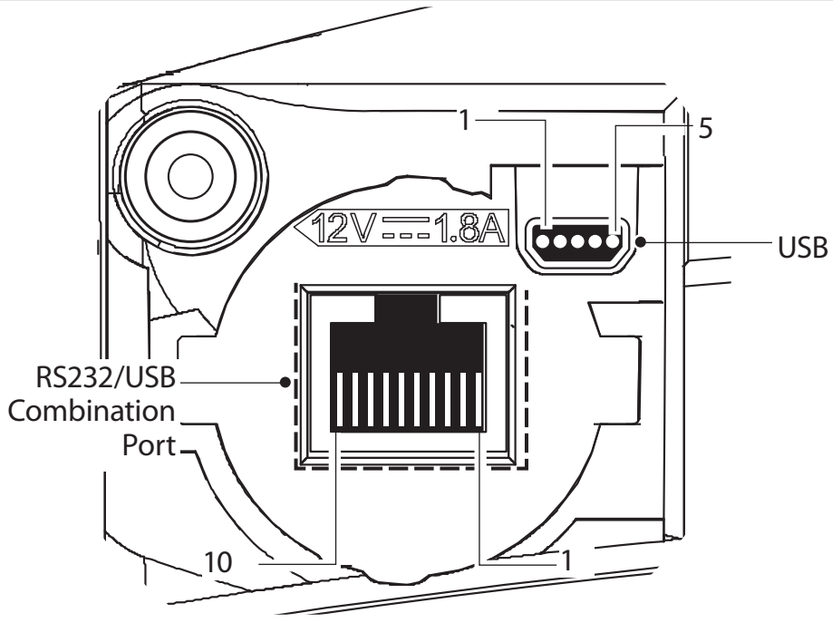
Printing Specifications

Maximum Print Width	4.09 in. [103,8 mm]
Print Speed @ 30% density	2.0 in. /sec. [50,8 mm/second] Direct Thermal mode 1.5 in/sec. [38,1 mm/second] Thermal Transfer mode
DistancefromPrintElementtoTear Edge	0.39 in. [9,91 mm] 41 dots
Print Head Life	1,000,000 inches (25.4 Km) min.
Print Density	203 dots/inch (8 dots/mm)

Memory/Communications Specifications

Flash Memory	8 MB flash (standard)
RAM Memory	16 MB RAM)
Standard Communications	RS-232C serial port (RJ-45 connector) Configurable Baud rate (from 9600 to 115.2 Kbps), parity and data bits. Software (X-ON/X-OFF) or hardware (DTR/STR) communication handshake protocols.
	Two USB 2.0 Full Speed Interface connections: (1) a "B" type USB connector, and (2) USB signals are also integrated into the RJ-45 connector. Refer to the Communications Ports specifications and Appendix A for information on USB cables.
OptionalWirelessCommunications	Bluetooth 2.0 compatible 2.4 GHz SRRF link
	Wireless LAN capabilities comply with 802.11b or 802.11g protocols
	Co-located Bluetooth 2.0 + 802.11b/g radios (P4T only)
Real Time Clock (RTC)	Time and date under application control. Refer to CPCL Programming Manual, available at www.zebra.com for RTC commands.

Figure 19- P4T Series Communication Ports



Communications Ports

USB

Signal			Description
Pin#	Name	Type	
1	VBUS		USB Bus Power
2	USB -	bi-directional	I/O signals
3	USB +	bi-directional	I/O signals
4	USB_ID		Identifies A/B connector
5	Return		Ground

RS232/USB

Signal			Description
Pin#	Name	Type	
1	USB D-	bi-directional	I/O signals
2	USB D+	bi-directional	I/O signals
3	RXD	input	Receive Data
4	TXD	output	Transmit Data
5	DTR	output	Data Terminal Ready- set high when printer is on.
6	GND		Ground
7	DSR	input	Data Set Ready- low to high
8	RTS	output	Request To Send- set high when printer is ready to accept a command or data
9	CTS	input	Clear To Send from host
10	VBUS		USB Bus Power

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P4T Series Media Specifications

Media Width	2.0 in. to 4.12 in. (50,8 to 104,6 mm)
Max. continuous receipt (w/std. memory)	Continuous, dependent on installed memory
Inter-label Gap.	0.08 in. to 0.16 in. (0.12 in. preferred) (2 mm to 4 mm [3 mm preferred])
Label Thickness	0.032 in to 0.007" (0,064 mm to 0,165 mm)
RFID Label Thickness (RP4T only)	032 in to 0.007" (.064 mm to .165 mm), Thickness over RFID element- .023 in. [0,58 mm]
Max. Label Roll diameter.	2.25 in. (57 mm) O.D.
Label Inner Core	.75 in. (19 mm) minimum diameter; 1.38 in. (35 mm) RFID Media
Black Mark Dimensions	The reflective media black marks should extend past the centerline of the roll.
Media Requirements	Minimum mark width: 1.0 in. (25,4 mm) perpendicular to edge of media, centered within the width of the roll. Mark length: 0.094 in. (2,4 mm) parallel to edge of media

Use Zebra brand direct or thermal transfer media that is outside wound. Media may be reflective (black mark) sensing, or transmissive (gap) sensing, die-cut, or continuous. P4T Series units configured with the External Media option will accept fanfold media used with an external media supply.
For die-cut labels, use only full auto dies.

P4T Series Font and Bar Code Specifications

Linear & 2-D Bar Codes Available	Codabar (NW-7)
	UCC/EAN 128
	Code 39
	Code 93
	EAN 8/JAN 8, 2 and 5 digit extensions
	EAN 13/JAN 13, 2 and 5 digit extensions
	EAN 14/JAN 14, 2 and 5 digit extensions
	Interleaved 2 of 5
	MSI/Plessey
	FIM/POSTNET
	UPC-A, 2 and 5 digit extensions
	UPC-E, 2 and 5 digit extensions
	QR Code
	MaxiCode
	PDF 417
	Aztec
	DataMatrix (using ZPL emulation)
	RSS (Reduced Space Symbology®): RSS-14 Truncated RSS-14 Stacked RSS-14 Stacked Omnidirectional RSS Limited RSS Expanded
	TLC-39/Micro PDF
Rotation Angles	0°, 90°, 180°, and 270°
Fonts Available	Standard Fonts: 25 bit-mapped fonts; 1 scalable (CG Trimvirate Bold Condensed*)
	Downloadable optional bit-mapped & scalable fonts via Label Vista software
	International character sets: Chinese 16 x 16 (trad.), 16 x 16 (simplified), 24 x 24 (simplified); Japanese 16 x 16, 24 x 24 Korean Myang 16 x 16 Greek Hebrew/Arabic

*Contains UFST from Agfa Monotype Corporation
*Contains UFST from Agfa Monotype Corporation

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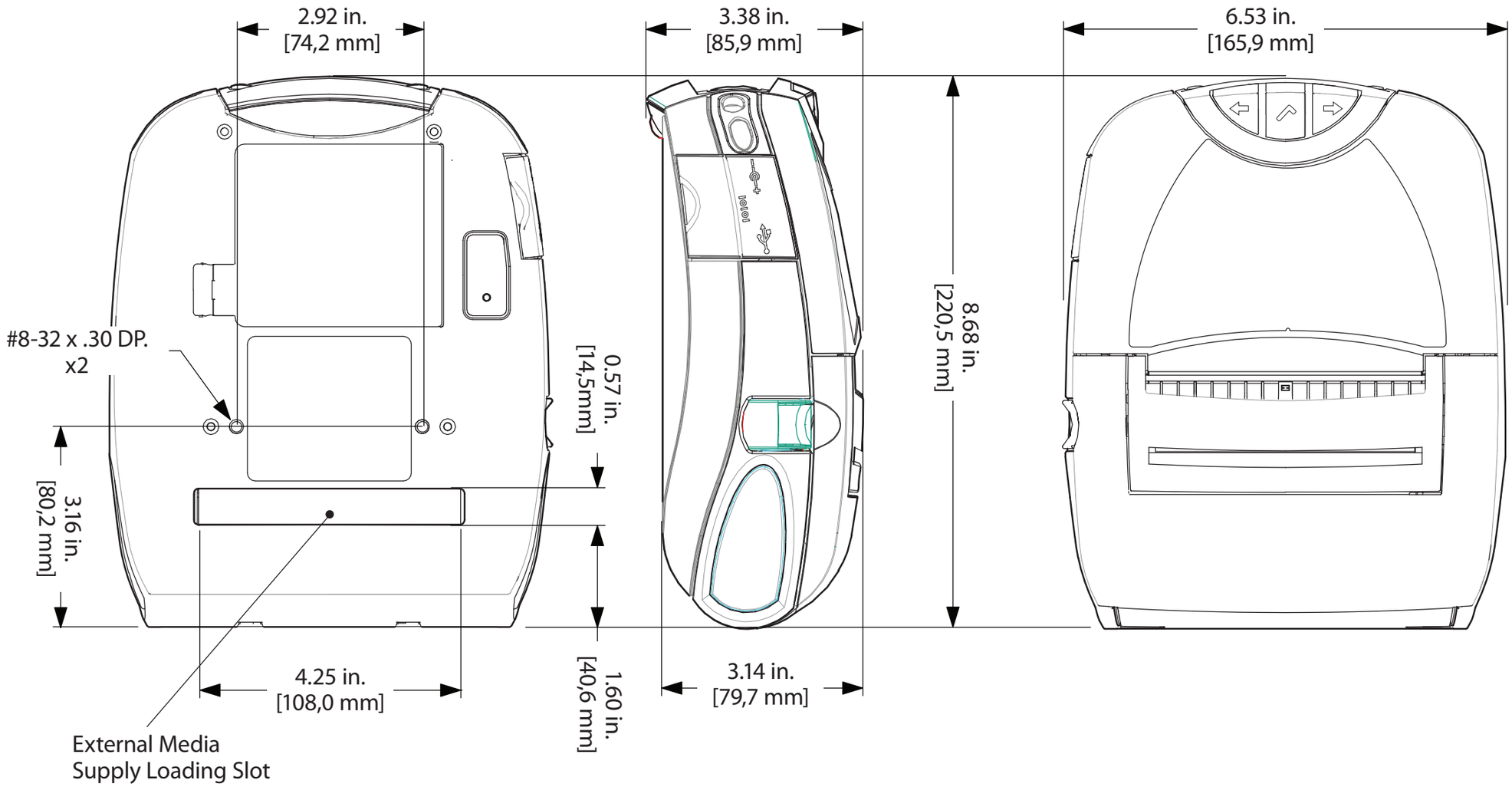
Physical/Environmental/Electrical Specifications

P4T Series	
Weight w/ battery, and TT ribbon excluding media and radio option	2.9 lbs. (1,32 Kg.)
Operating Temperature	Direct Thermal: -4 °F to 122 °F (-20 °C to 50 °C) Thermal Transfer: 32 °F to 113 °F (0 °C to 45 °C)
Charging Temperature	32 °F to 104 °F (0°C to 40 °C)
Storage Temperature	-22 °F to 149 °F (-30 °C to 65 °C)
Relative Humidity	Operating: 10% to 90% (non-condensing)
	Storage: 10% to 90% (non-condensing)
Battery	7.4V Lithium-Ion 4.2 AHr.
Intrusion Protection (IP) Rating	14 (54 w/ optional soft case)

Figure 20-P4T Series Overall Dimensions



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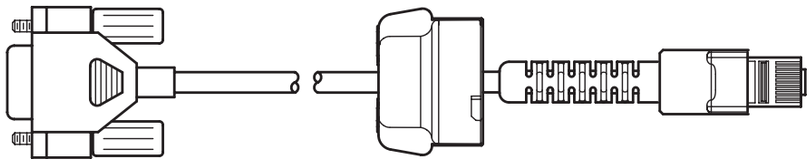
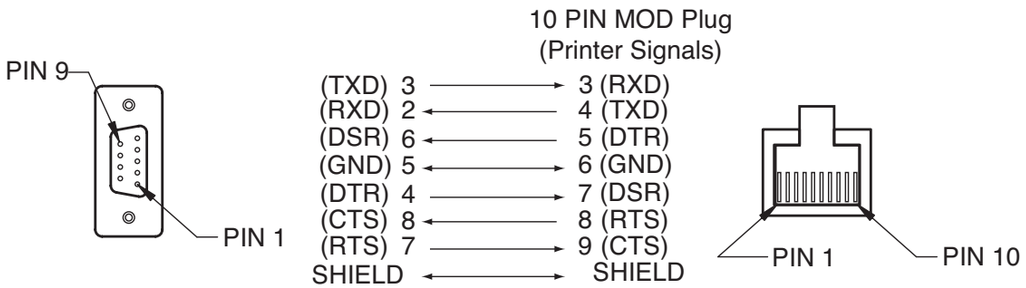
Appendix A

Interface Cables

RS232 Download Cable

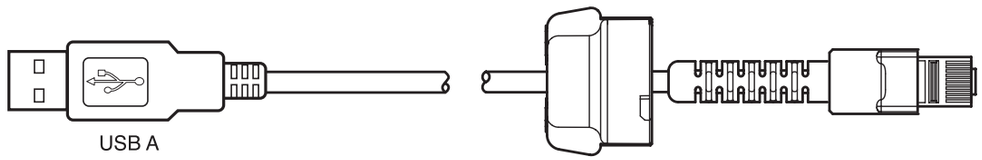
Part Number AK17463-008; RW Mod Plug to 9-Pin DB PC Cable

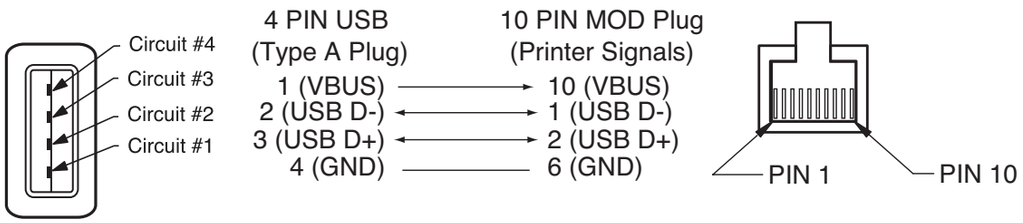




USB Download Cable

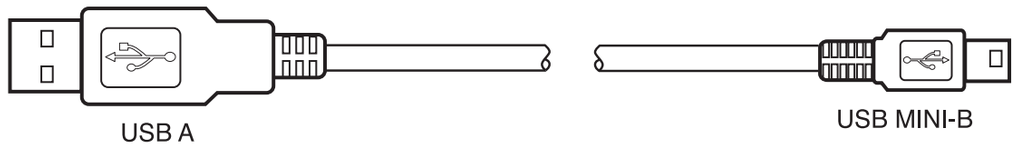
Part Number AK18666-1; RW Mod Plug to USB A Cable

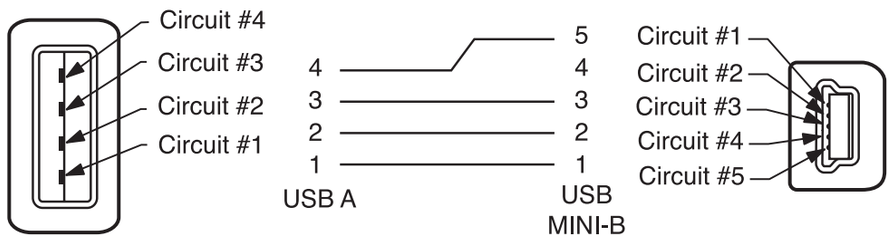




USB Cable

Part Number AT17010-1; USB A to USB Mini B Cable





Contact the Factory or your Zebra Sales Representative for more information on interface cables to most major manufacturer's data terminals.

You may also visit the Zebra Web site at www.zebra.com for a listing of interface cables for all series of Zebra mobile printers

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Appendix B

Media Supplies

To insure maximum printer life and consistent print quality and performance for your individual application, it is recommended that only media produced by Zebra be used.

Advantages include:

- Consistent quality and reliability of media products.
- Large range of stocked and standard formats.
- In-house custom format design service.
- Large production capacity which services the needs of many large and small media consumers including major retail chains world wide.
- Media products that meet or exceed industry standards.

For more information about standard or custom media contact your re-seller or Zebra Technologies Corporation at +1.866.230.9495 (U.S., Canada and Mexico) and ask to speak to a Media Sales Representative.

Appendix C

Maintenance Supplies

In addition to using quality media provided by Zebra, it is recommended that the printer be cleaned as prescribed in the Maintenance section. The following items are available for this purpose:

- Cleaning Pen (12 pack), Reorder No. AN11209-1
- Cleaning Kit with Cleaning Pen, and Cotton Swabs, Reorder No. AT702-1

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Appendix D

Product Support

When calling with a specific problem regarding your printer, please have the following information on hand:

- Model number/type (e.g. P4T, RP4T)
- Unit serial number
- Product Configuration Code (PCC)

For on-line product support and the most recent versions of downloadable user documentation, firmware and software utilities, go to the Zebra Web site: www.zebra.com

In the Americas, contact

Regional Headquarters	Technical Support	Customer Service Dept
Zebra Technologies International, LLC 333 Corporate Woods Parkway Vernon Hills, Illinois 60061-3109 U.S.A T: +1 847 793 2600 Toll-free +1 800 423 0422 F: +1 847 913 8766	T: +1 847 913 2259 F: +1 847 913 2578 Hardware: ts1america@zebra.com Software: ts3america@zebra.com	For printers, parts, media, and ribbon, please call your distributor, or contact us. T: +1 877 275 9327 E: clientcare@zebra.com

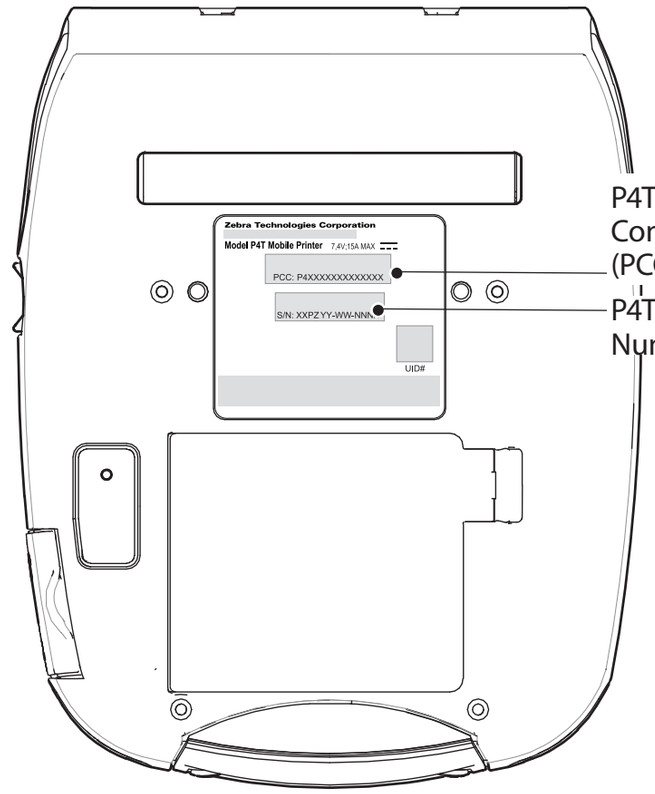
In Europe, Africa, the Middle East, and India, contact

Regional Headquarters	Technical Support	Internal Sales Dept.
Zebra Technologies Europe Limited Dukes Meadow Millboard Road Bourne End Buckinghamshire SL8 5XF, UK T: +44 (0)1628 556000 F: +44 (0)1628 556001	T: +44 (0) 1494 768298 F: +44 (0) 1494 768210 Germany: Tsgermany@zebra.com France: Tsfrance@zebra.com Spain/ Portugal: Tsspain @zebra.com All other areas: Tseurope@zebra.com	For printers, parts, media, and ribbon, please call your distributor, or contact us T: +44 (0) 1494 768316 F: +44 (0) 1494 768244 E: cseurope@zebra.com

In the Asia Pacific region, contact

Regional Headquarters	Technical Support	Customer Service
Zebra Technologies Asia Pacific, LLC Go to www.zebra.com/contact for complete contact information T: +65 6858 0722 F: +65 6885 0838	T: +65 6858 0722 F: +65 6885 0838 E: (China): tschina@zebra.com All other areas: tsasiapacific@zebra.com	For printers, parts, media, and ribbon, please call your distributor, or contact us T: +65 6858 0722 F: +65 6885 0836 E: (China) order-csr@zebra.com All other areas: csasiapacific@zebra.com

Serial and PCC Number Locations for P4T Series Printers



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Appendix E

Battery Disposal

The EPA certified RBRC® Battery Recycling Seal on the Lithium-Ion (Li-ion) battery supplied with your printer indicates Zebra Technologies Corporation is voluntarily participating in an industry program to collect and recycle these batteries at the end of their useful life, when taken out of service in the United States or Canada. The RBRC program provides a convenient alternative to placing used Li-ion batteries into the trash or the municipal waste stream, which may be illegal in your area.

Insulate depleted battery terminals with tape before disposal.

Please call +1 800 8BATTERY for information on Li-ion battery recycling and disposal bans or restrictions in your area. Zebra Technologies Corporation's involvement in this program is part of our commitment to preserving our environment and conserving our natural resources.

Outside North America, please follow local battery recycling guidelines.

Product Disposal

Do not dispose of this product in unsorted municipal waste. This product is recyclable. Please recycle according to your local standards. For more information, please see our web site at: http://www.zebra.com/environment

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Appendix F

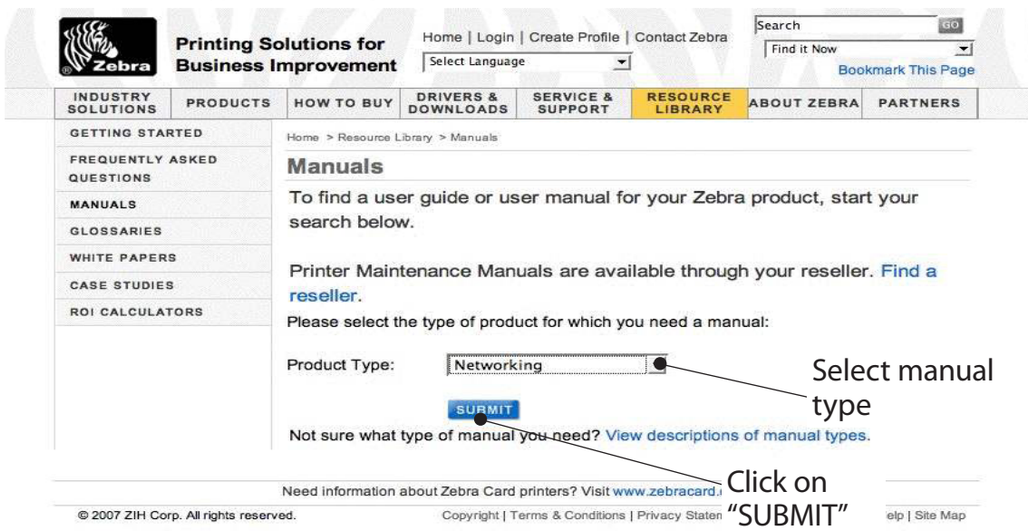
Using zebra.com

The following examples use the search functions on Zebra's Web site for finding specific documents .

Example1: Find the Mobile Printer Wireless Configuration Guide.

Go to www.zebra.com/manuals.

Select as a manual type "Networking Manual" then click on "Submit".


Printing Solutions for Business Improvement
Home | Login | Create Profile | Contact Zebra
Select Language
Search
Find it Now
Bookmark This Page
INDUSTRY SOLUTIONS
PRODUCTS
HOW TO BUY
DRIVERS & DOWNLOADS
SERVICE & SUPPORT
RESOURCE LIBRARY
ABOUT ZEBRA
PARTNERS
GETTING STARTED
FREQUENTLY ASKED QUESTIONS
MANUALS
GLOSSARIES
WHITE PAPERS
CASE STUDIES
ROI CALCULATORS
Home > Resource Library > Manuals
Manuals
To find a user guide or user manual for your Zebra product, start your search below.
Printer Maintenance Manuals are available through your reseller. Find a reseller.
Please select the type of product for which you need a manual:
Product Type:
Networking
SUBMIT
Not sure what type of manual you need? View descriptions of manual types.
Need information about Zebra Card printers? Visit www.zebracard.
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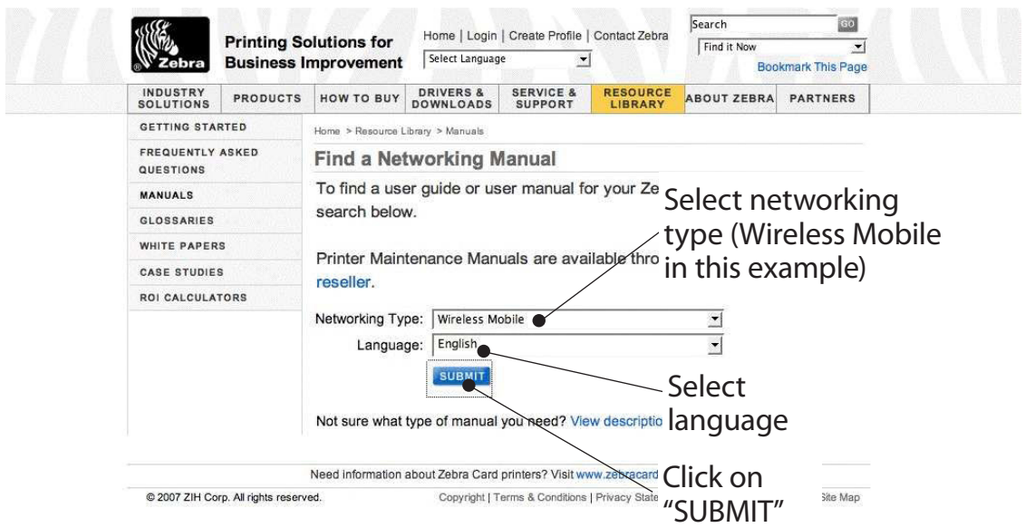
Copyright | Terms & Conditions | Privacy Staten
elp | Site Map
Select manual type
Click on "SUBMIT"

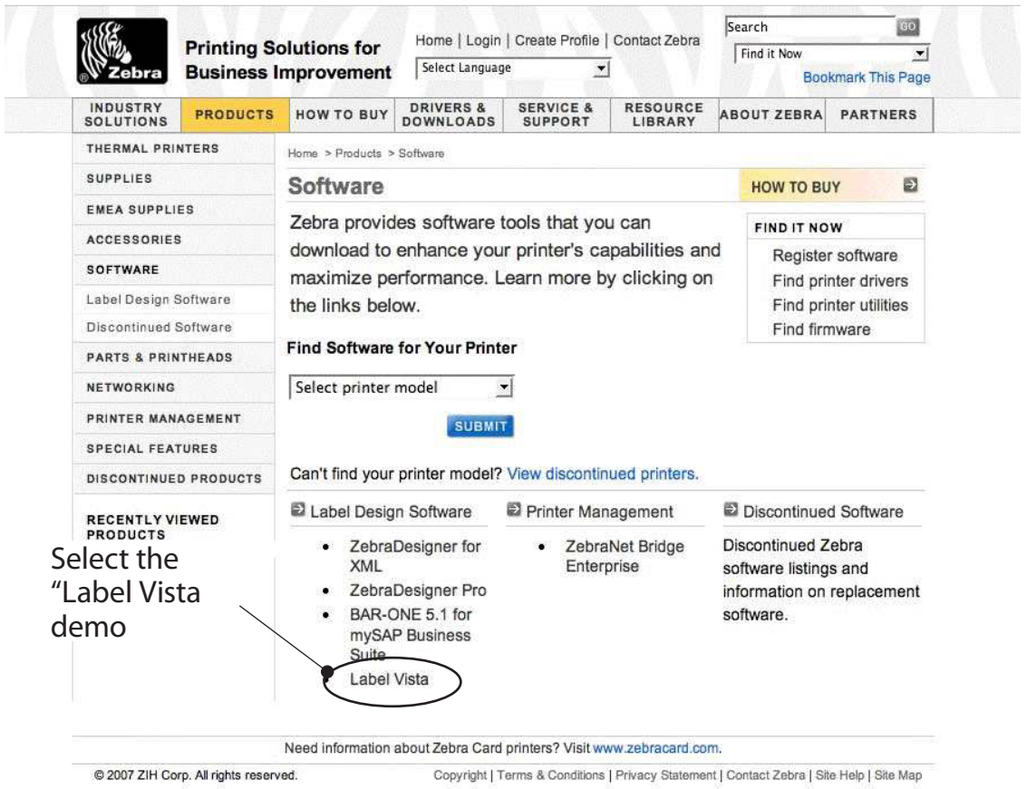
At the resulting screen, select Wireless Mobile as the networking type. Then select the desired language. (Best choices are "All" or "English")



At the resulting screen, select "Zebra Mobile Printers - Wireless Configuration Guide" then click on "Download" to begin the download process.

Example 2: Find the Label Vista Download page:

Go to www.zebra.com/software and select "Label Vista", then click "Submit".



At the resulting window select "Download a free Label Vista demo now "

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Appendix G- Patents

This product and/or its use may be covered by one or more of the following US patents and corresponding international patents worldwide

D275,286	5,113,445	5,399,846	5,726,630	6,261,009
D347,021	5,140,144	5,408,081	5,768,991	6,261,013
D389,178	5,132,709	5,410,139	5,790,162	6,267,521
D430,199	5,142,550	5,410,140	5,791,796	6,270,072 B1
D433,702	5,149,950	5,412,198	5,806,993	6,285,845 B1
D549,768	5,157,687	5,415,482	5,813,343	6,292,595
3,964,673	5,168,148	5,418,812	5,816,718	6,296,032
4,019,676	5,168,149	5,420,411	5,820,279	6,364,550
4,044,946	5,180,904	5,436,440	5,848,848	6,379,058 B1
4,360,798	5,229,591	5,444,231	5,860,753	6,409,401 B1
4,369,361	5,230,088	5,449,891	5,872,585	6,411,397 B1
4,387,297	5,235,167	5,449,893	5,874,980	6,428,227 B2
4,460,120	5,243,655	5,468,949	5,909,233	6,480,143
4,496,831	5,247,162	5,479,000	5,976,720	6,530,705
4,593,186	5,250,791	5,479,002	5,978,004	6,540,122
4,607,156	5,250,792	5,479,441	5,995,128	6,540,142
4,673,805	5,262,627	5,486,057	5,997,193	6,607,316
4,736,095	5,267,800	5,503,483	6,004,053	6,609,844
4,758,717	5,280,163	5,504,322	6,010,257	6,655,593
4,816,660	5,280,164	5.519,381	6,020,906	6,784,787
4,845,350	5,280,498	5,528,621	6,034,708	6,874,958
4,896,026	5,304,786	5,532,469	6,036,383	6,899,477
4,897,532	5,304,788	5,543,610	6,057,870	6,908,034
4,923,281	5,321,246	5,545,889	6,068,415	7,126,716
4,933,538	5,335,170	5,552,592	6,068,415	7,137,000
4,992,717	5,364,133	5,570,123	6,095,704	7,172,122
5,015,833	5,367,151	5,578,810	6,109,801	7,190,270
5,017,765	5,372,439	5,589,680	6,123,471	
5,021,641	5,373,148	5,612,531	6,147,767	
5,029,183	5,378,882	5,642,666	6,151,037	
5,047,617	5,396,053	5,657,066	6,201,255 B1	
5,103,461	5,396,055	5,680,459	6,231,253 B1	

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